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1984 ANNUAL UPDATE

FINAL REPORT

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MONTANA RAIL PLAN

1984 UPDATE

PREPARED BY THE

MONTANA DEPARTMENT OF COMMERCE

TRANSPORTATION DIVISION

MAY, 1985

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CHAPTER ONE

INTRODUCTION

CHAPTER 1
INTRODUCTION TO THE ANNUAL UPDATE

Under provisions of the Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act) and its amendments, states are required to prepare a State Rail Plan and to keep it current through Annual Updates. This participation in rail planning at the state level not only involves the state in a vital segment of the transportation industry but also qualifies the state to receive certain federal funds for the purpose of improving statewide rail services.

The State of Montana published its initial State Rail Plan in August, 1979 a supplement in 1980 and 1983 with complete rewrites in 1982 and 1984. This document, therefore, represents Montana's fifth publication of its rail plan. Because of the ongoing and considerable changes with respect to railroads since the last published document, the State has chosen to present a full revision of the 1982 rail plan instead of supplementing only items that have changed. Thus, the 1984 update is intended to stand alone so the reader can gain a full understanding of Montana's railroads without reliance on another report.

Rail Planning Responsibility

The Department of Commerce has been designated by the Governor as the state agency responsible for rail planning. This assignment became effective July 1, 1981. Prior to the creation of this department, this responsibility was with the Montana Department of Highways. The personnel responsible for rail planning were transferred from other departments including Highways, Agriculture, and the former Department of Community Affairs.

State Rail Policies and Objectives

The State of Montana developed a series of rail policies and objective statements prior to the publication of the State Rail Plan in 1979. Since then, policy 4 and objective 13 have been amended or added to reflect legislation passed by the Montana Legislature allowing state ownership of railroad rights-of-way. These statements have continued to guide rail planning and are presented in Table 1-1.

State Energy Policy

Energy planning and policy implementation in Montana is the responsibility of the Energy Division of the Montana Department of Natural Resources and Conservation. The State has been actively involved in energy conservation for several years and has prepared and implemented a State Energy Conservation Plan. However, the Plan does not directly address freight transportation with respect to energy policy. Elements of the plan are as follows:

- Procurement analysis to provide state and local governments with a means to evaluate products for their energy efficiency.

- Energy managing, auditing and retrofitting state buildings.

- Law to allow a right turn on red became effective in 1974.

- Development of carpool and vanpool programs to promote ridesharing.

- Bikeway planning and construction.

TABLE 1-1

RAIL POLICIES AND OBJECTIVES IN MONTANA

POLICIES

1. Continue present reliance upon privately-owned railroads in providing essential intra and interstate rail services.
2. Recognize and accept the principle that individual lines must earn sufficient revenues to cover operating expenses and provide the owning railroad with a reasonable return on the investment.
3. Coordinate rail planning and implementation activities with state and local land use policies and social, economic, environmental and energy use objectives.
4. Encourage railroad efforts to improve service to Montana shippers, including, when appropriate, the ownership of railroad rights-of-way and attendant facilities by the state and the operation of these by a local authority or shortline operator.
5. Preserve rail access to natural and economic resources having expansion or development potential.
6. Utilize abandoned rail rights-of-way for public uses wherever feasible and practical.

OBJECTIVES

1. Develop the state rail plan as a component of an overall intermodal transportation plan. Evaluate the rail system as a portion of the state's total transportation system.
2. Institute a cooperative, comprehensive and continuing rail planning program which includes participation from state and local governments, the rail industry, and provides for public input.
3. Encourage modal (or intermodal) usage which provides the lowest total transport cost.
4. Identify and evaluate user needs and revenue generation required for the economic operation of specific light density lines.

5. Quantify the economic impacts of proposed rail system adjustments (abandonments).
6. Assess and mitigate, if possible, any environmental and social impacts of rail system adjustments.
7. Take steps necessary to maintain in or return to the private sector these rail lines found to be economically viable.
8. Evaluate alternatives to rail system adjustments, and arrange transportation solutions for shippers on lines not found to be viable.
9. Coordinate funding from governmental and private sources for rail service continuation, rehabilitation, acquisition, substitute service, or new construction projects selected as a consequence of state rail planning.
10. Encourage the continued use of rail passenger service, where provided. Promote expanded passenger service only where the potential traffic is large enough to substantially sustain the service provided.
11. Review state statutes and local regulations to eliminate undue impediments to efficient railroad operations.
12. Promote or sponsor changes and additions (as necessary) to existing federal and state legislation to develop a sound, efficient program of state rail planning and local service assistance.
13. Implement a program to identify and acquire certain railroad rights-of-way that have been or may be abandoned. Transfer to a local authority all attendant facilities and all rights and responsibilities to operate and maintain transportation services over those lands acquired.

SOURCE: Montana Department of Commerce

- Enforcement of the 55 mph speed limit.

- Weatherization assistance for fixed and low income families.

- A renewable energy tax credit and an energy conservative tax deduction were adopted in 1977 to encourage conservation of fossil fuels.

- Extensive program to educate the public about energy conservation and the many programs available through the State Energy Conservation Plan.

- Adoption of a statewide "Code for Energy Conservation in New Building Construction" in 1978.

- Emergency building temperature restrictions were adopted in 1982 because of the cancellation of the program at the federal level.

Public Participation

Public participation in the rail planning process is encouraged in several ways.

Rail User Survey - The railroad shippers and receivers on most of the branchlines eligible for assistance have participated in surveys so that the state can not only develop a data base but also gain an understanding of rail issues from those who utilize a railroad's services. The survey for this update was conducted beginning in the summer of 1984. Copies of the survey forms can be found in Appendix A.

A-95 Process - As with most federally funded studies, the 1984 Update was given a formal review in accordance with the Office of Management and Budget Circular A-95 revised, 41 CFR

2052, January 13, 1976.

Public Hearing - Public hearings were held in Plentywood, Lewistown, and Missoula to receive public comment on the draft report. Legal notices were published in area newspapers in accordance with state law, and copies of the draft Update were circulated.

Informal Public Participation - The Department of Commerce encourages daily public participation through the continuing availability to answer questions, to provide data, and to attend various railroad and shipper meetings.

Funding Process

The federal funds available to the individual states are allocated by the Federal Railroad Administration based on the number of eligible rail line miles in each state in relation to the national eligible rail mileage. Table 1-2 summarizes Montana's entitlements for this program. By federal law, a maximum of 70 percent of a rail project may be funded by this program. The other 30 percent must come from a nonfederal source. The State of Montana does not utilize any public funds for this purpose and requires another party to participate. Future allocations are based on a national project by project basis at the discretion of the Secretary of Transportation. There is currently $12,000,000 in national allocation.

Response to Federal Railroad Administration (FRA) Comments

The State of Montana has not received formal FRA comments regarding the initial State Rail Plan or the succeeding submissions. Therefore, even though the federal rail plan regulations require a response to FRA comments, none can be made.

TABLE 1-2

FUNDS AVAILABLE FOR RAILROAD PROJECTS

State of Montana

FISCAL YEAR	FEDERAL	NONFEDERAL MATCH	SUBTOTAL	LESS ADMINISTRATION	AVAILABLE
1979	$ 627,976	$156,994	$ 784,970	$ 4,778	$ 780,192
1980	3,247,688	811,922	4,059,610	193,315	3,866,295
1981	0	0	0	0	0
1982	1,123,049	481,307	1,604,356	80,218	1,524,138
1983	649,473	278,345	927,818	142,857	784,961
1984	125,212	53,662	178,874	8,950	169,924

SOURCE: Montana Department of Commerce

Events Occurring Since Previous Report

Status of Chicago, Milwaukee, St. Paul and Pacific - Since the preparation of the initial State Rail Plan, the railroad system has changed considerably since a major railroad, the Chicago, Milwaukee, St. Paul and Pacific, has ceased to operate. In 1979, this railroad had over 1,000 route miles in the state. Today all Milwaukee trackage is being or already has been salvaged with some small amounts being taken over by the Burlington Northern Railroad (BNRR) and other concerns. The State of Montana was quite active in trying to preserve at least some rail service over the Milwaukee Road system. However, with the abandonment and physical dismantling of much of the track, there is little that can be done to restore service.

Burlington Northern System Diagram Map - Each railroad is required by law to publish a map annually which identifies rail lines which it may seek to abandon. The Burlington Northern Railroad published its map in June, 1981, and Montana was one of the states for which the railroad had designated a large number of potential abandonment candidates. The BNRR later revised its map, and the state still had over 500 miles which were designated for possible abandonment. In June 1982, 1983, and 1984 the BNRR published maps which further reduced the number of miles in potential danger of abandonment. Table 3-2 lists the current status of these lines. The State of Montana is extremely concerned over the possibility of losing so many of its branchlines and is seeking ways to assure that a high level of local rail service is maintained. In this report, 18 such branchlines are analyzed in order to make them eligible for federal funding. Thirty-two branchlines were analyzed in earlier publications bringing the number to 36 that have been analyzed since the rail plan concept has been instituted.

Rail Passenger Service - The North Coast Hiawatha was

discontinued in October, 1979 as reported in the 1980 Supplement. Service has not been restored, but a renewed interest has been expressed and to resume service over the BNRR's main line across the southern part of the state. Currently there is a coalition of business people and state politicians examining the various information and options available to reestablish the route.

State Rail Legislation - In 1983, the Montana State Legislature passed Section 60-11-111, M.C.A., "Identification and Acquisition of Railroad Rights of Way." This law requires the Department of Commerce to identify railroad rights-of-way that have been or may be abandoned, and to write a plan for their acquisition. The lines selected for the acquisition study are included in this Update to qualify them for federal project funding.

Highway impact cost estimates resulting from the abandonment of subject lines were included in the acquisition analysis and as a result are also included in this Rail Plan. However, it should be noted that highway impact cost analysis was not performed on all lines or projects in the Update.

Butte, Anaconda & Pacific Abandonment Before The ICC - The Butte, Anaconda & Pacific is one of four railroads in Montana and was established in 1892 to haul ore from the mines in Butte to the smelter in Anaconda. With the shutdown of mining operations in Butte the railroad has seen little activity and an abandonment petition awaits consideration before the ICC.

According to a potential settlement negotiated between the State of Montana, Rarus Railway Co. and ARCO (an operating company of the Atlantic Richfield Co.), all of the system except the land and track materials in the Ramsay Yard and six miles of mainline will be donated to the State of Montana. Contingent upon Federal Railroad Administration approval, the

state will purchase the Ramsay Yard and six miles of mainline for an agreed upon price of $178,874.28. The state will then lease the entire system to Rarus for rail operations.

Geraldine Branchline Abandonment And Shortline Operation - The Geraldine Branchline was originally scheduled for abandonment when the Milwaukee Road curtailed operations in Montana. The Burlington Northern purchased the line to continue service to the Geraldine area. As events and circumstances dictated, the Burlington Northern decided to abandon the branchline. At this juncture the line was acquired by the state under authority of 60-11-111, M.C.A. Negotiations with the Burlington Northern acquired funds to establish financial support to rehabilitate the trackage and structures on the line and form a shortline corporation. Presently Central Montana Rail is the managing entity of the Geraldine Branchline and service is expected to resume in 1985.

Moratorium on Abandonment of BNRR Rail Lines Until June, 1987 - In the negotiations between the BNRR and the Montana Department of Commerce regarding the Geraldine branchline (see previous paragraph), the BNRR agreed to impose a moratorium on the abandonment of rail lines in the state until June of 1987. All Category V lines are covered by the moratorium. Also included are the Drummond to Philipsburg, Butte to Whitehall, and Lewistown to Heath lines, all of which are in Category I.

CHAPTER TWO

MONTANA RAIL SYSTEM

CHAPTER 2
MONTANA RAIL SYSTEM

Four railroad companies serve Montana. Three of these carriers are designated as Class I railroads by the Interstate Commerce Commission because they receive more than $50,000,000 in gross operating revenue annually. The fourth carrier, the Butte, Anaconda and Pacific, is classified as a Class III carrier with gross revenues of less than 10 million dollars annually. Two additional rail organizations exist in Montana. The South Dakota Rail Authority owns 75 miles of rail that it leases to the Burlington Northern Railroad, and Central Montana Rail has been organized to operate on 66.1 miles of rail acquired from the Burlington Northern.

An overview of the total Montana rail system, as it exists today, can be obtained from Figure 2-1. Examination of the figure indicates a heavy east-west orientation of rail lines along both northern and southern portions of the state. These northern and southern segments are connected in Montana only in the central portion of the state by rail lines leading through the Great Falls area, with additional connections immediately to the east and west in North Dakota and Idaho, respectively. The overall east-west orientation leads to the designation of Montana as a railroad "bridge" state. Other connections into this east-west system are found from Canada into the Shelby area, from Idaho and Colorado into the Butte area, from Wyoming into Laurel, and from North Dakota into Terry.

Table 2-1 illustrates the existing mileage of each railroad in Montana. As shown, the state has approximately 3,456 miles of operating track. Eighty-nine percent is owned or operated by one company, the Burlington Northern Railroad. The

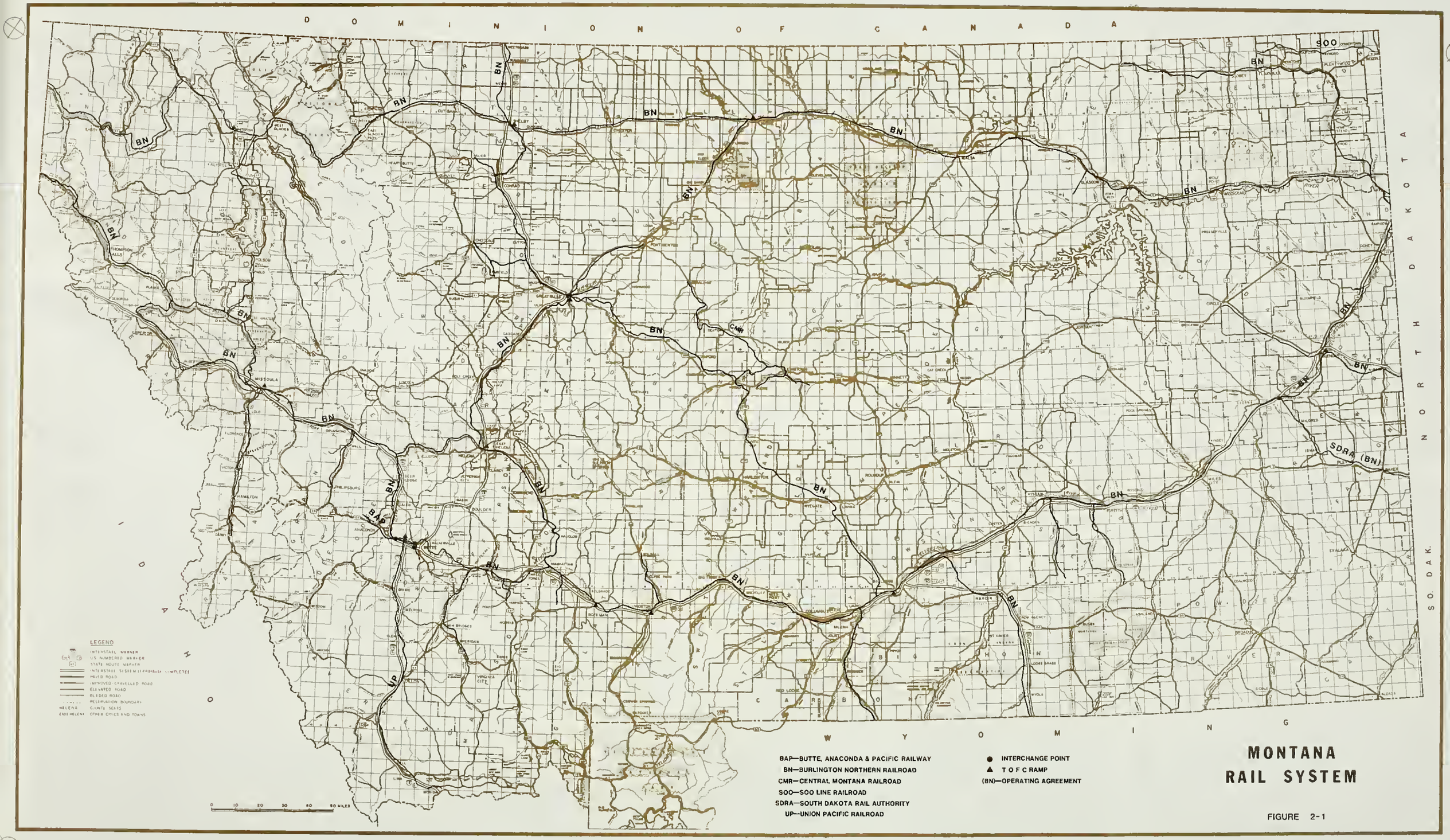
TABLE 2-1

MONTANA RAILROAD TRACKAGE

COMPANY	MONTANA MILES OWNED AND LEASED		TOTAL MILES OPERATED	PERCENT OF TOTAL MILES OPERATED
	Main Tracks	Other Tracks		
Burlington Northern (1)	2,390	768	3,158	89
Butte, Anaconda & Pacific	43	72	115	3
Central Montana Rail	66	--	66	2
Soo Line	--	57	57	2
Union Pacific	133	--	133	4
Total Miles	2,632	897	3,529	100

(1) Includes Approximately 70 Miles Owned By The South Dakota Rail Authority And Operated By Burlington Northern Under A Lease/Purchase Agreement.

SOURCE: Montana Department of Commerce



MONTANA RAIL SYSTEM

FIGURE 2-1

Union Pacific rail trackage constitutes only four percent of the total state trackage with the Butte, Anaconda and Pacific Railroad accounting for two percent, and the Soo Line and Central Montana Rail, two percent.

Railroad Companies

Four rail carriers currently serve Montana. These carriers are the Burlington Northern Railroad, Butte, Anaconda & Pacific, Soo Line, and the Union Pacific.

Burlington Northern, (BN) - Given the 1980 merger of the Burlington Northern with the St. Louis - San Francisco, the Burlington Northern now operates the nation's longest rail system (over 29,000 miles) which serves 25 states, two Canadian provinces, and covers the western two-thirds of the United States. As indicated, 89 percent of Montana's rail system is operated by the BNRR. The principal BNRR traffic in Montana is coal, followed by farm products (principally wheat), and lumber and wood products.

Butte, Anaconda and Pacific (BAP) - While this railroad accounts for only three percent of Montana's rail system, it nevertheless accounted for eight percent of total Montana originating and terminating 1981 tonnage. But this high tonnage per mile figure has dropped dramatically. Most of the BAP's traffic base has been lost with the closure of mining-smelting operations in Butte-Anaconda, and application for abandonment has been filed. The railroad is located in the Butte area and transports primarily copper concentrates. This railroad is exclusively within the State of Montana.

Pending approval from the Federal Railroad Administration and the Interstate Commerce Commission, ARCO (the Butte, Anaconda & Pacific's parent company) will donate nearly all and sell a small segment of the line to the State of Montana.

Rarus (a newly formed Railway Company) will then lease the property for operation from the state.

Soo Line (SOO) - The Soo Line operates less than two percent of Montana's rail system with a single line located in the far northeastern part of the state through Sheridan County into North Dakota. A relatively small amount of wheat traffic can be found on this line. To some degree this line operates as a competitor to a BNRR line which traverses Sheridan County and is also basically a wheat shipping line.

Union Pacific (UP) - The Union Pacific operates a mainline from the south into Butte, Montana. This line represents four percent of the Montana rail system and carries two percent of the freight. The principal commodities carried into Montana by the UP are: nonmetallic minerals (principally lead), petroleum and coal products, waste and scrap materials, stone-clay-glass-concrete products, and chemicals. The principal commodities carried from Montana (originated on the UP) are nonmetallic minerals (mainly phosphate rock), stone (mainly crushed rock), lumber and wood, and chemicals.

South Dakota Railroad Authority (SDRA) - This organization was formed to preserve some of the former Milwaukee Road service in South Dakota. One line, which affects Montana, runs from Terry to Ortonville, Minnesota. This line is owned by the Authority and operated by the Burlington Northern under a lease/purchase agreement. Approximately 70 miles of the line are in Montana.

Central Montana Rail (CMR) - This corporation has been formed to preserve service to central Montana on a 66.1 mile branchline that was abandoned by the Burlington Northern after being acquired from the Milwaukee Road. The State of Montana acquired the line in a settlement with the Burlington Northern that turned the line over to a nonprofit corporation for management.

Railroad Operating Statistics

Summary statistics of the three Montana Class I railroads are shown by Table 2-2. Comparisons derived from these statistics again indicate the dominance of the Burlington Northern Railroad. Even on a net ton-mile basis, the total freight carried by the Soo Line is by comparison small, as is the freight carried by the Union Pacific. Some caution should be applied, however, in that all train mileage and ton-mileage comparisons are strongly skewed by the large BNRR coal movements. These movements, as illustrated later in Table 2-6, account for 63 percent of all the revenue freight carried by the BNRR.

Freight Traffic

The railroads operating in Montana originated and terminated a large volume of freight traffic, as well as the carriage or bridging of traffic through the state. Total originating and terminating traffic on all major rail carrier routes has decreased significantly in the last year reflecting mining curtailments in the service areas. Total tonnage decreases for the Burlington Northern and the Union Pacific were 11% and 62%, respectively, while the Soo Line reflected a 50% increase in tonnage. Total carloads also reflected decreases for the Burlington Northern and Union Pacific. These amounts were 13% and 41%, respectively, while the Soo Line has a 47% increase. It should be noted here that the Soo Line has a minimal amount of trackage in 100% agricultural market area.

Total Freight Traffic - As shown by Table 2-3, over 38 million tons of rail freight traffic were originated and terminated in Montana in 1982. Of initial interest is the strong occurrence of originating freight along the BNRR line. Ninety-four percent of BNRR originating and terminating traffic is classified as originating.

TABLE 2-2

RAILROAD FREIGHT OPERATING STATISTICS

CLASS I RAILROADS IN MONTANA

1982

ITEM	RAILROAD BNRR	SOO	UP	TOTAL
Train Miles (thousands)	6,994.12	4.43	141.0	7,139.55
Locomotive Miles (thousands)	25,150.40	10.36	384.16	25,544.92
Car Miles (millions)	546.92	0.25	5.2	552.37
Gross Ton-Miles (train cars contents and cabooses) (millions)	38,518.64	1.35	(1)	38,519.99
Train Hours (thousands)	259.06	0.14	(1)	259.20
Net Ton-Miles of Revenue Freight (millions)	24,724.91	.879	181.27	25,785.18

(1) Data Not Compiled By States.

SOURCE: 1983 R-1 Report For Each Railroad.

TABLE 2-3
TOTAL ORIGINATING AND
TERMINATING CARLOADS AND TONNAGE
MONTANA - 1982

	TONS		
RAILROAD	Originating	Terminating	Total
Burlington Northern	34,729,789	2,389,549	37,119,338
Soo Line	78,092	-0-	78,092
Union Pacific	225,599	273,606	499,205
	35,033,480	2,663,155	37,696,635

	CARLOADS		
	Originating	Terminating	Total
Burlington Northern	378,578	40,346	418,924
Soo Line	773	-0-	773
Union Pacific	3,064	3,135	6,199
	382,415	43,481	425,896

SOURCE: 1983 R-1 Report For Each Class 1 Railroad.

Operations on the Butte, Anaconda & Pacific Railroad have curtailed in the last year due to the termination of mining activities in the Butte - Anaconda area. Abandonment petition has been filed.

Major Commodities - Tables 2-4 and 2-5 illustrate the seven leading commodity group tonnages originated or terminated in the state.

Considering the leading originated commodities, coal is by far the most dominant since it accounts for 26,027,484 tons of freight, i.e., 75.7 percent of all originated commodities. Farm Products (predominately wheat) accounts for only 13.2 percent of originated tonnage which amounts to 4,540,172 tons of freight. Lumber and wood products are next in ranking followed closely by significant tonnages of nonmetallic minerals, pulp-paper and allied products, petroleum and coal products, and stone-clay-glass-concrete products.

Terminated commodities, as a whole, amount to six percent of total originated and terminated traffic. This six percent is more evenly distributed among the leading seven commodity groups with lumber and wood markets the top commodities accounting for 21 percent of all terminated commodities. Lumber is followed closely by chemicals, coal, and metallic ores.

Burlington Northern Commodities - As previously indicated, the freight movements of the Burlington Northern Railroad dominate the Montana rail system. Given this occurrence a closer inspection of BNRR freight carriage is shown by Table 2-6. While these freight statistics will have numerous similarities to total Montana freight data, some additional insights can be gained. As with total Montana data, coal carriage does dominate; however, farm products and lumber and wood products take on a lesser but still significant position.

TABLE 2-4
MAJOR RAIL COMMODITIES ORIGINATED
IN MONTANA 1981

COMMODITY	CARS	PERCENT	TONS	PERCENT
Coal	266,158	69.6	26,027,484	75.7
Farm Products	49,308	12.9	4,540,172	13.2
Lumber & Wood Products, Except Furniture	25,473	6.7	1,444,156	4.2
Nonmetallic Minerals, Except Fuels	7,160	1.9	621,595	1.8
Pulp, Paper and Allied Products	10,452	2.7	592,715	1.7
Stone, Clay, Glass and Concrete Products	4,336	1.1	306,920	0.9
Petroleum and Coal Products	5,973	1.6	501,981	1.5
All Others	13,524	3.5	919,877	2.8
	382,384	100.0	34,362,185	100.0

SOURCE: 1983 R-1 Report For Each Railroad.

TABLE 2-5
MAJOR RAIL COMMODITIES TERMINATED
IN MONTANA 1981

COMMODITY	CARS	PERCENT	TONS	PERCENT
Coal	3,630	8.7	358,315	14.2
Lumber & Wood Products, Except Furniture	8,655	20.8	511,602	20.3
Nonmetallic Minerals, Except Fuels	1,603	3.8	150,367	6.0
Chemicals and Allied Products	4,150	10.0	379,125	15.1
Metallic Ores	2,705	6.5	260,931	10.4
Farm Products	3,686	8.8	202,109	8.0
Petroleum and Coal Products	2,522	6.1	182,458	7.3
All Others	14,702	35.3	471,263	18.7
	41,653	100.0	2,516,170	100.0

SOURCE: 1981 R-1 Report For Each Railroad.

TABLE 2-6
PRINCIPAL COMMODITIES CARRIED BY THE
BURLINGTON NORTHERN RAILROAD IN MONTANA 1983

COMMODITY	TONNAGE			
	Revenue Freight Originating Within State	Total Revenue Freight Terminating Within the State	Other Freight Carried Within the State Trans-State (Bridge Traffic)	Total Revenue Freight Carried Within the State
Coal	26,027,484	358,131	400,442	26,427,926
Farm Products	4,494,460	202,109	203,346	4,899,915
Lumber & Wood Products	1,385,315	511,519	580,717	2,477,551
Stone, Clay, Glass, Concrete	247,271	75,265	996,348	1,318,884
Chemicals & Allied Products	107,465	379,125	1,254,615	1,741,205
Petroleum & Coal Products	501,981	182,458	356,862	1,041,301
Non-Metallic Minerals	583,423	24,012	256,231	863,486
Pulp & Paper	592,715	25,321	115,873	733,909
Food & Kindred Products	307,401	90,732	101,118	499,251
Primary Metal Products	204,238	101,148	117,313	422,699
Metallic Ores	118,242	260,931	269,906	649,079
Fabricated Metal Products	312	3,917	4,105	8,334
Waste & Scrap	95,691	6,264	62,374	164,329
All Others	63,791	168,617	209,448	441,856
	34,729,813	2,389,549	4,928,698	41,689,725

SOURCE: 1983 R-1 Report For The Burlington Northern Railroad.

Considering BNRR commodity traffic excluding coal, originating traffic totals to 8,702,329 tons with terminating traffic at 2,031,418 tons and bridge traffic at 4,528,256 tons. Again, originating traffic is dominant and has increased over previous years.

Considering bridge traffic (i.e., other freight carried within the state) of note is the high tonnage of chemical and allied products movement. Chemicals are followed by stone-clay-glass and concrete, lumber and wood products, and coal. A conclusion to be derived is that for many commodity groups Montana does serve as a significant bridging region with terminating traffic still of importance, but in a secondary role.

Traffic Density

Figure 2-2 illustrates the 1982 Montana rail system traffic density. The gross ton-mile categories include not only the weight of the freight hauled, but also the weight of the locomotives and empty and loaded rolling stock. The traffic density map gives an indication of routing patters employed and the demand for service along track segments.

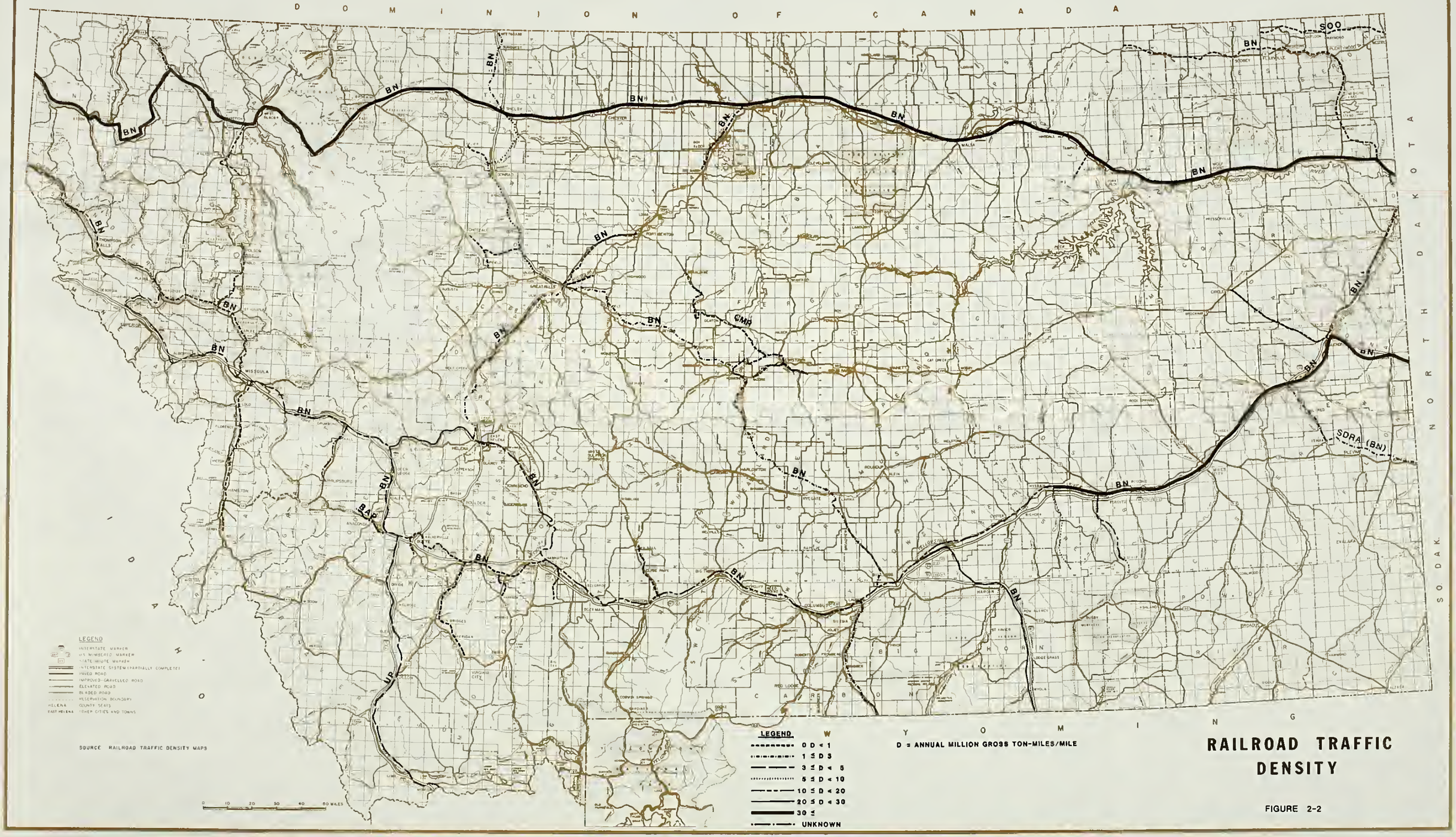
As shown, the rail line densities vary from high traffic levels to very low traffic levels with few medium traffic flows (i.e., five to ten million gross tons per year). The most heavily utilized sections of track are the BNRR line running through Libby, Shelby, Havre and Wolf Point, and the BNRR line running through Missoula, Helena, Bozeman, Billings and Glendive. These two lines both have an east-west traffic orientation with generally over or near 20 million tons of freight per year. The northern line tends to have the most consistent tonnage levels with nearly equal directional freight movements. This northerly line is considered to be the easiest rail route to reach the Pacific Northwest.

The more southerly high density route (i.e., through Helena) has more variance in tonnage levels. From the Idaho border to Huntley, approximately 20 million tons of freight per year are carried through numerous towns and cities and other freight termination and originating points. With the upgrading of the line through Helena this has now become the mainline route for freight traffic. Beginning at Huntley a general directional imbalance in traffic exists. Traffic from the west heading toward Huntley is approximately 74 percent of the traffic heading toward Idaho from Huntley. In contrast traffic heading from the east toward Huntley is only 32 percent of the traffic heading from Huntley toward the east. This easterly traffic is dominated by coal shipments including shipments from the Kuehn and Big Sky areas.

Aside from the two major east-west routes three general areas of low freight density can be observed from Figure 2-2. Lower traffic levels are found around Great Falls, in the Butte area, between Glendive and Snowden, and decreased tonnages are also found between Garrison and Butte and on the UP line into Idaho. In addition to these moderately low density regions, numerous isolated low density branchlines are observed. In the Great Falls area increased tonnages are shown between Shelby and Great Falls.

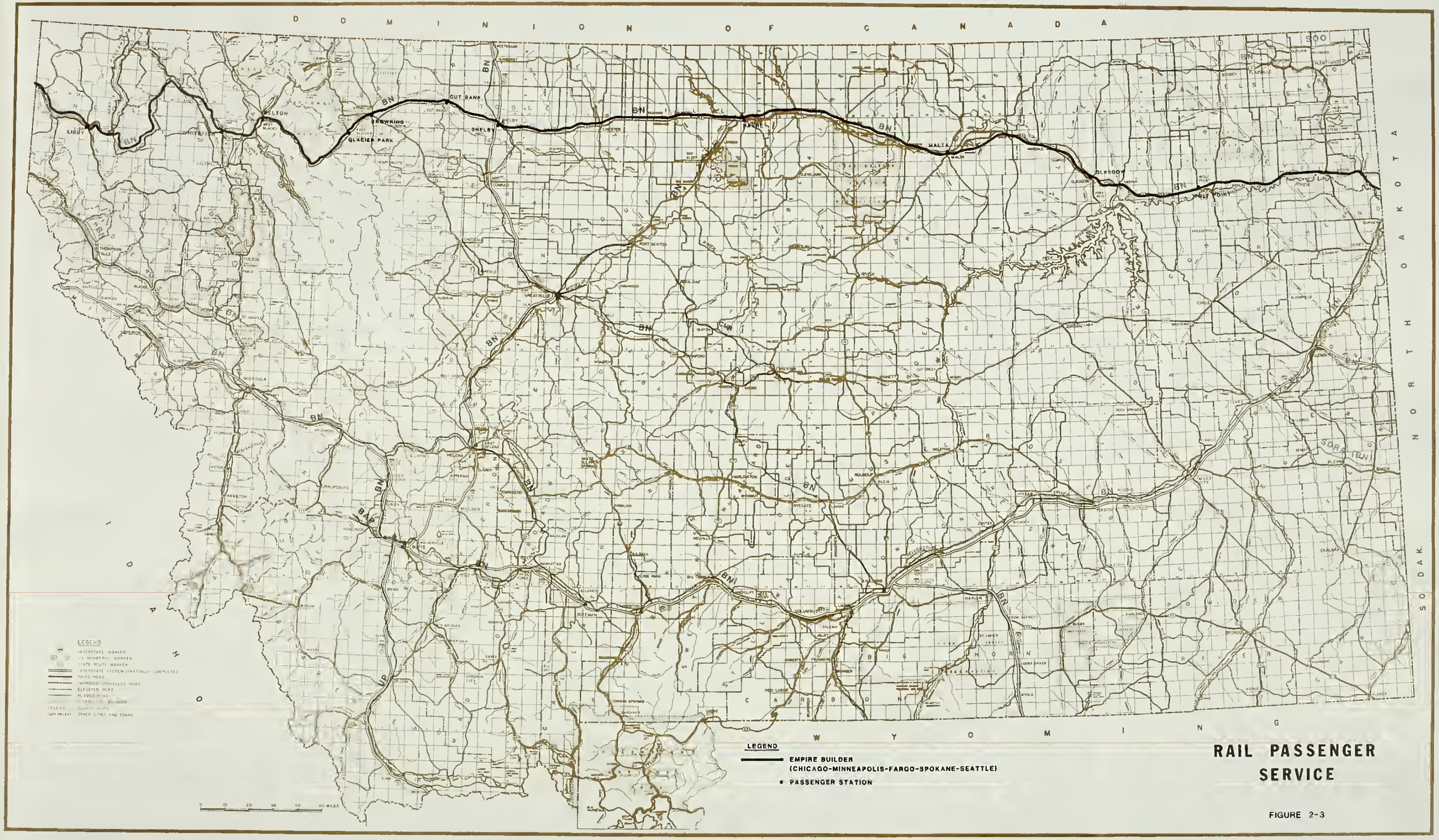
Passenger Service

As shown on Figure 2-3 rail passenger service is provided across northern Montana through Snowden, Havre and Shelby. Service is provided three days per week in each direction. In October 1979, the National Rail Passenger Corporation (Amtrak) reduced the rail service along this northern route from four trains per week to three, as well as the total discontinuance of transcontinental east-west service across southern Montana via Billings and Butte. Proposals have been made for reestablishment of this southern service with Amtrak agreeing to study



RAILROAD TRAFFIC DENSITY

FIGURE 2-2



RAIL PASSENGER SERVICE

FIGURE 2-3

TABLE 2-7
TOTAL PASSENGERS ON & OFF
TOTAL PASSENGER TRAFFIC AND SUMMARY STATISTICS, FISCAL YEAR 1983

AMTRAK CODE	MONTANA STATION	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
BRO	Browning	534	557	696	295	2,082
BTN	Belton	158	92	595	3,311	4,156
CUT	Cut Bank	1,019	789	944	945	3,697
GGW	Glasgow	1,947	1,437	1,807	1,737	6,928
GPK	Glacier Park	1	1	874	7,996	8,870
HAV	Havre	4,916	3,574	4,908	6,764	20,163
LIB	Libby	1,293	863	963	1,146	4,265
MAL	Malta	813	683	1,231	1,304	4,031
SBY	Shelby	2,396	1,790	2,386	2,975	9,547
WFH	Whitefish	8,444	8,876	6,829	10,397	34,576
WPT	Wolf Point	2,109	3,179	4,018	3,162	12,468
		23,630	21,841	25,251	40,032	110,783

SUMMARY STATISTICS FOR ENTIRE ROUTE

Passengers	425,000
Passenger Miles	276,071,000
Transportation Revenue	27,367,000
Average Trip Length	650
Passenger Miles Per Train Mile	146

SOURCE: Manager, State and Local Services Analysis, Amtrak, Washington, D.C.

the market feasibility of reestablishing a southern passenger route. Table 2-7 summarizes the number of passengers using Montana's stations, as well as various summary statistics.

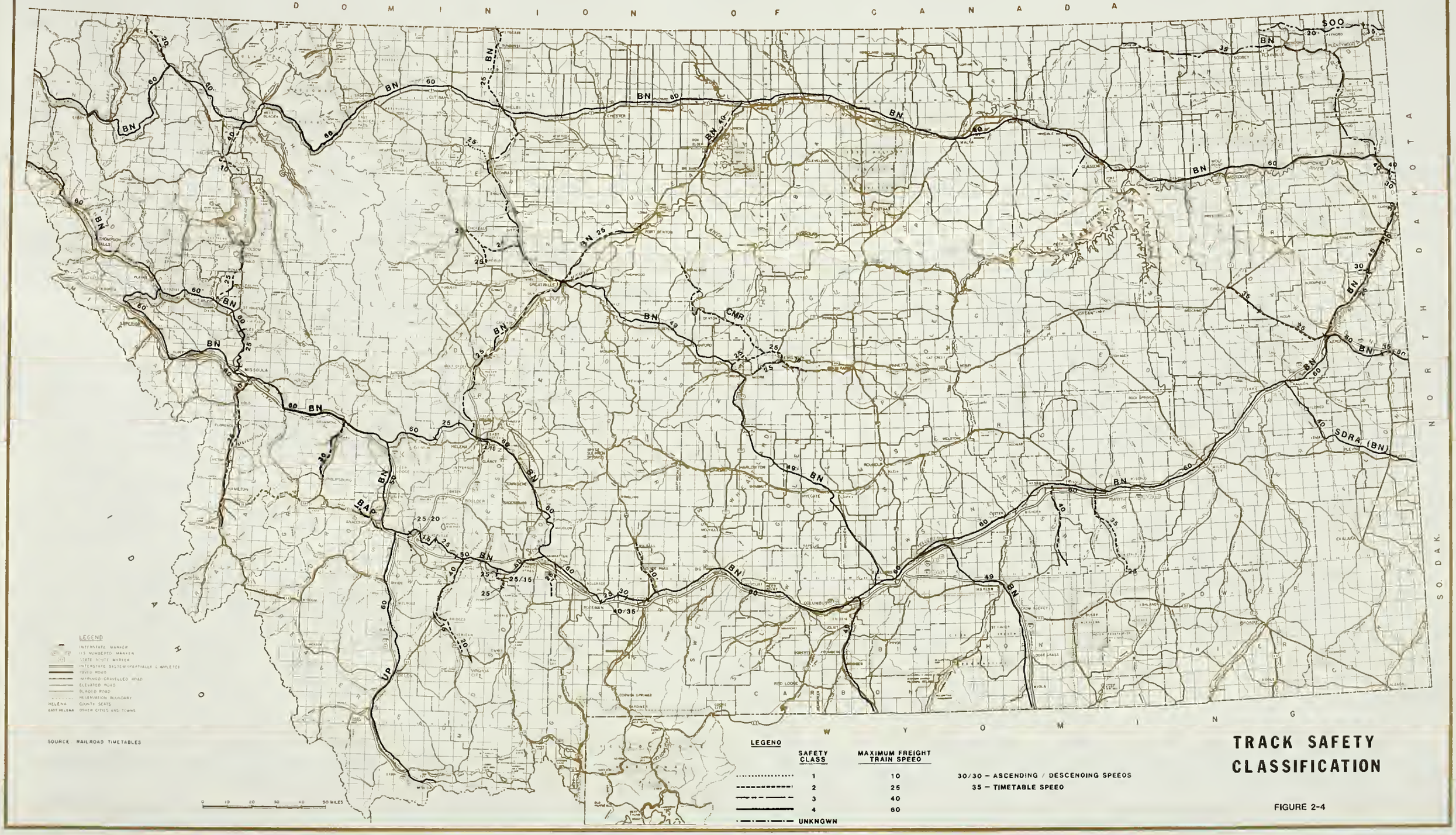
Track Safety Classification

In general the mainline tracks operated by the BNRR, UP and BAP railroads are well maintained and allow maximum operating speeds between 40 and 60 miles per hour. Figure 2-4 illustrates four track safety classification categories, and maximum train speeds for Montana rail lines. These speeds are general maximums with occasional speed restrictions due to physical constraints, local town ordinances and interlockings or turnouts which require reduced speeds. Numerous speed restrictions of a local town nature can be found between Bozeman and Billings, as well as restrictions of several miles in mountain areas for ascending and descending steep grades. As shown by Figure 2-5, several branchlines possess maximum speed restrictions below 25 miles per hour.

Line Clearances and Weight Limitations

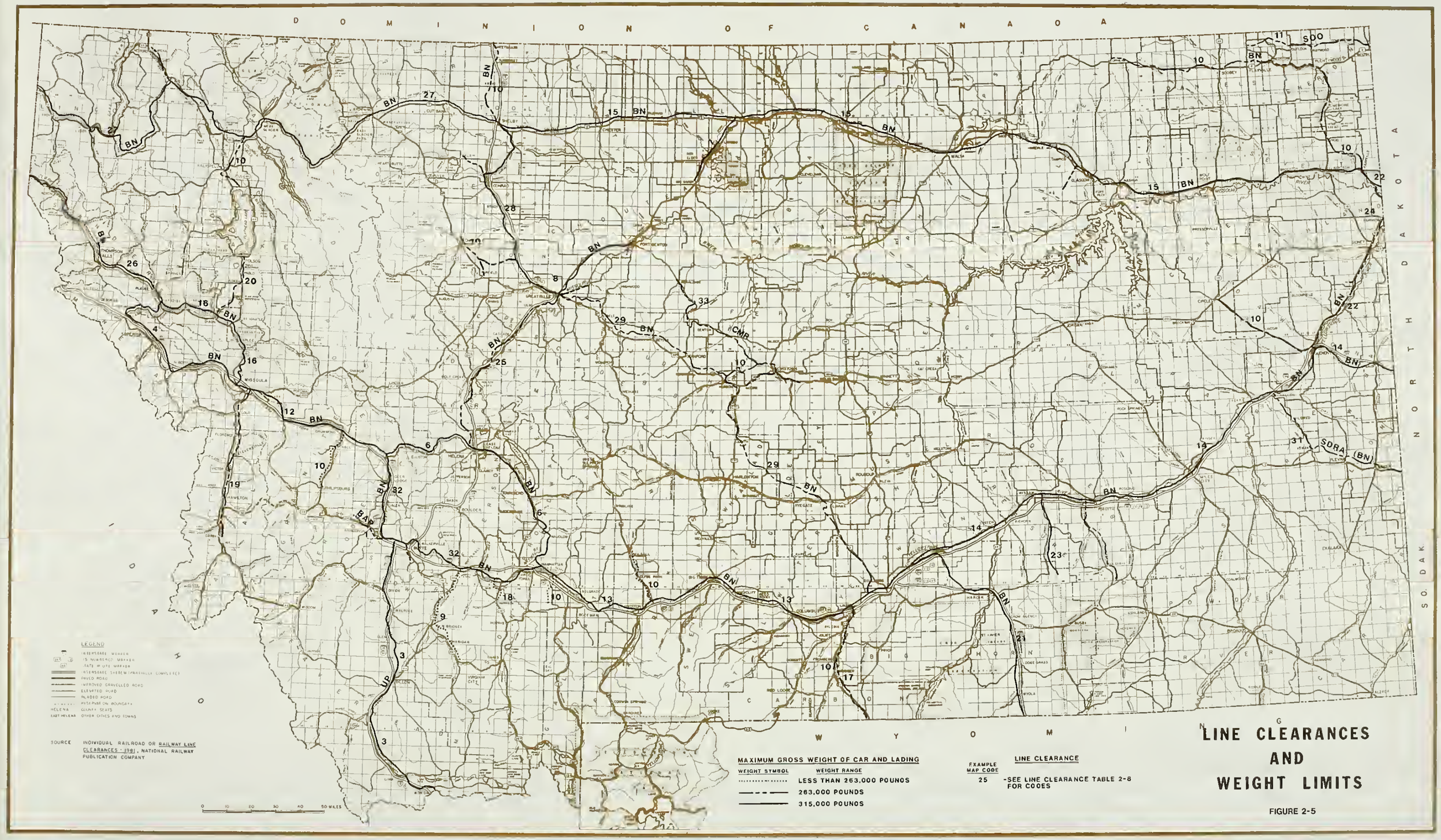
Figure 2-5 and Table 2-8 illustrate line clearances for selected heights with Figure 2-5 also indicating weight limitations. Generally unrestricted line clearances begin at two feet above rail with a width clearance of 12 feet. This clearance profile proceeds continuously up in height from the rail with a 12 foot width clearance up to at least a 20 foot height. Major deviations from these clearance norms can be prohibitive for specific rail loads. Examples of more restricted clearances can be found at Figure 2-5 map code numbers 6, 5, 7, 29 and 30. However, these clearances are

(2) The clearance data shown by Table 2-8 and Figure 2-5 are general in nature and therefore should not be used for determination of freight transport routings. Reference should be made to the Railway Line Clearances publication or to the carrier for specific movements.



TRACK SAFETY CLASSIFICATION

FIGURE 2-4



LINE CLEARANCES AND WEIGHT LIMITS

FIGURE 2-5

TABLE 2-8
RAILWAY LINE CLEARANCES IN MONTANA

MAP CODE	CLEARANCES HEIGHT	CLEARANCES WIDTH	MAP CODE	CLEARANCES HEIGHT	CLEARANCES WIDTH	MAP CODE	CLEARANCES HEIGHT	CLEARANCES WIDTH	MAP CODE	CLEARANCES HEIGHT	CLEARANCES WIDTH
1	19' 0"	11' 6"	10	20' 0"	12' 0"	19	20' 0"	12' 0"	28	20' 0"	10' 6"
	19' 0"	11' 6"		20' 0"	12' 0"		20' 0"	12' 0"		19' 3"	12' 0"
	3' 3"	11' 6"		2' 0"	12' 0"		3' 9"	12' 0"		3' 6"	12' 0"
2	16' 6"	9' 6"	11	22' 0"	12' 0"	20	20' 0"	12' 0"	29	19' 9"	1' 11'
	12' 0"	11' 0"		22' 0"	12' 0"		20' 0"	12' 0"		16' 0"	12' 0"
	3' 3"	11' 0"		2' 0"	12' 0"		2' 6"	11' 7"		5' 0"	12' 0"
3	20' 0"	7' 10"	12	20' 0"	7' 5"	21	20' 0"	9' 3"	30	20' 0"	8' 10'
	18' 3"	12' 0"		17' 6"	12' 0"		18' 0"	12' 0"		15' 3"	11' 9"
	2' 3	12' 0"		2' 9"	12' 0"		2' 0"	12' 0"		2' 6"	10' 10'
4	20' 0"	8' 0"	13	20' 0"	12' 0"	22	20' 0"	10' 4"	31	20' 0"	12' 0"
	16' 9"	12' 0"		20' 0"	12' 0"		19' 0"	12' 0"		3' 3"	12' 0"
	2' 0"	12' 0"		2' 9"	12' 0"		2' 6"	12' 0"		2' 0"	10' 10'
5	17' 6"	2' 0"	14	20' 0"	10' 7"	23	20' 0"	12' 0"	32	19' 3"	12' 0"
	13' 3"	12' 0"		19' 6"	12' 0"		20' 0"	12' 0"		3' 3"	12' 0"
	2' 9"	12' 0"		3' 6"	12' 0"		4' 0"	12' 0"		2' 0"	11' 0"
6	20' 0"	6' 10"	15	20' 0"	10' 11"	24	20' 0"	10' 2"	33	19' 6"	2' 6"
	10' 0"	12' 0"		19' 3"	12' 0"		19' 0"	12' 0"		16' 0"	12' 0"
	5' 6"	12' 0"		3' 3"	12' 0"		2' 6"	12' 0"		2' 0"	12' 0"
7	20' 0"	12' 0"	16	20' 0"	12' 0"	25	19' 0"	6' 2"			
	20' 0"	12' 0"		20' 0"	12' 0"		15' 0"	11' 6"			
	2' 0"	12' 0"		2' 6"	12' 0"		3' 3"	11' 6"			
8	19' 3"	9' 4"	17	20' 0"	7' 8"	26	20' 0"	3' 0"			
	18' 3"	12' 0"		17' 9"	12' 0"		16' 9"	12' 0"			
	3' 9"	12' 0"		3' 3"	12' 0"		2' 3"	12' 0"			
9	20' 0"	12' 0"	18	20' 0"	12' 0"	27	20' 0"	4' 2"			
	20' 0"	12' 0"		20' 0"	12' 0"		15' 3"	12' 0"			
	2' 0"	12' 0"		2' 9"	12' 0"		3' 6"	12' 0"			

Key: Maximum Height at Width (x)
Maximum Height of Maximum Width (x)
Minimum Height of Maximum Width (x)

See Figure 2-5 for map codes.

SOURCE: Railway Line Clearances, Volume 194, National Railway Publication Company, New York, 1984.

still adequate for most normal rail freight loads.(2) The data also shown on Figure 2-5 are maximum gross weight restrictions. These weight limits are for single four-axle cars and include the weight of the car as well as the lading. As shown, most main lines and branchlines possess a 263,000 pound maximum weight limit. A few lines, however, do have maximums of less than 263,000 tons which are not adequate to carry fully loaded covered hoppers. These lower weight restrictions are generally due to bridge ratings, lightweight rail, or poor ties. For the Burlington Northern, the largest carrier in the state, "gross weights are based on uniformly loaded 4-axle cars and coupled length of not less than 38 feet for 220,000 lbs. or less; 44 feet for 263,000 lbs. or less; 52 feet with minimum axle spacing of 6 feet and minimum wheel diameter of 38 inches for 315,000 lbs. or less." (3)

(3) National Railway Publication Company, Railway Line Clearances, Volume 194, New York, 1982.

CHAPTER THREE

LINES ELIGIBLE FOR ASSISTANCE

CHAPTER 3
LINES ELIGIBLE FOR ASSISTANCE

The railroad legislation of the past decade has recognized that certain lines may be unprofitable to the owning railroads but at the same time that their abandonment could create economic hardship on communities which lost rail service. Accordingly, a federal program was initiated to study lines proposed for abandonment and to seek solutions to enhance the financial viability of certain lines or to mitigate abandonment impacts.

Lines Eligible for Assistance

The local Rail Services Assistance Program provides federal funds to states on a matching basis for rail planning and project implementation purposes on eligible lines. In general terms, eligible lines include:

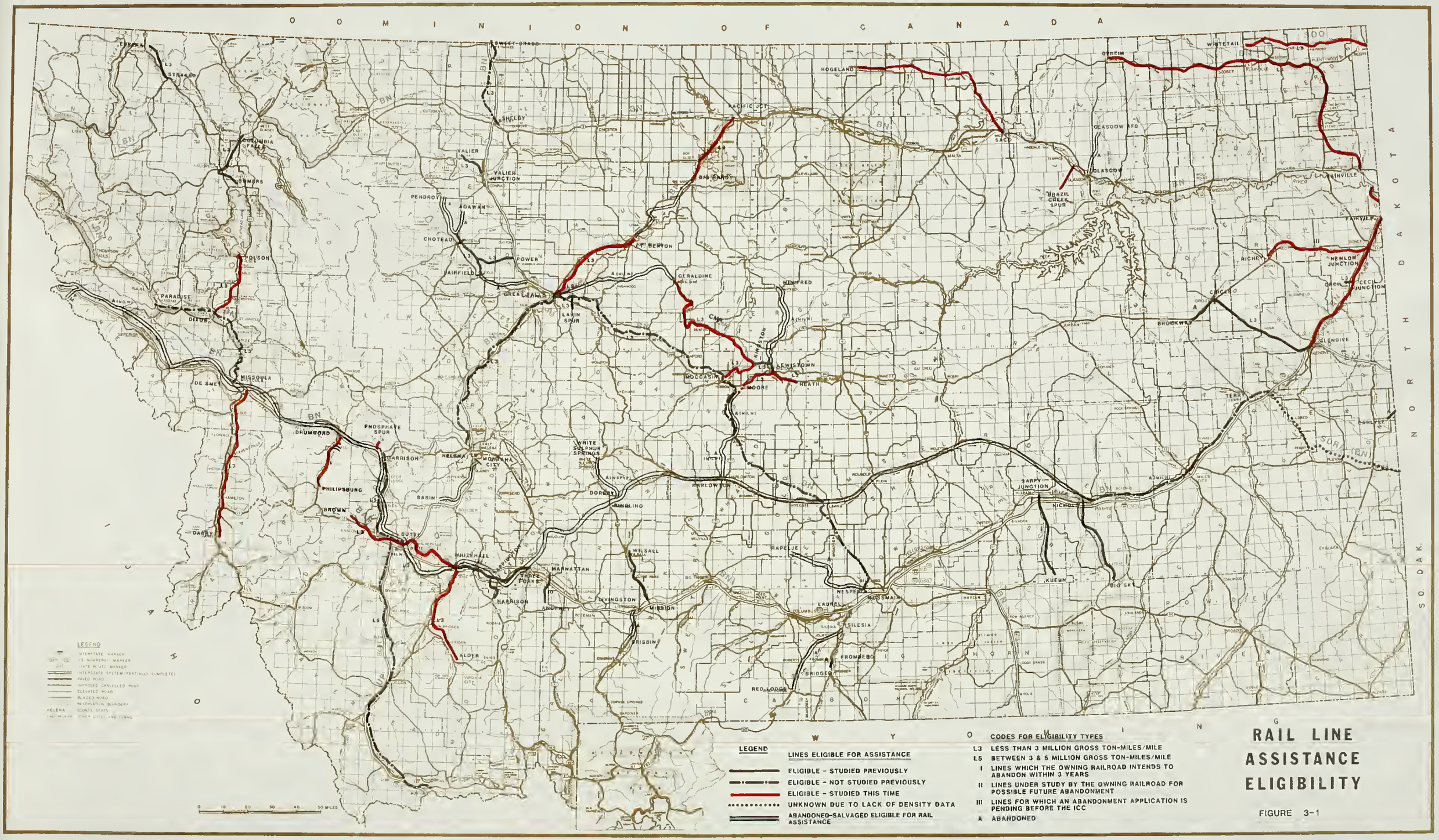
- Lines abandoned since October 1, 1978;
- Lines which are identified by the owning carrier on its Systems Diagram Map in Categories I, II, or III; and
- Light density lines carrying less than 3 million gross ton-miles (MGTM) per mile per year or with approval of the U.S. Department of Transportation lines which carry between 3 and 5 MGTM per mile annually.

Lines in Montana which are eligible for assistance are illustrated in Figure 3-1. Also shown are the lines that have been analyzed previously or in this Update.

TABLE 3-1

ABANDONED LINES ELIGIBLE FOR ASSISTANCE

LINE	RR	MILES	COUNTY
Big Sandy/Ft. Benton	BN	40.8	Chouteau
Choteau/Agawan	MILW	14.4	Teton
Choteau/Pendroy	BN	21.2	Teton
Circle/Brockway	BN	10.5	McCone
Dorsey/White Sulphur Springs	WSSYP	19.3	Meagher
Elephant Spur	BN	5.0	Granite
Fromberg/Bridger	BN	6.1	Carbon, Yellowstone
Glasgow/Glasgow AFB	BN	18.8	Valley
Great Falls/Fairfield	MILW	42.8	Cascade, Teton
Great Falls/Geraldine	MILW	60.0	Cascade, Choteau
Haugan/Idaho State Line	BN	18.9	Mineral
Hesper/Rapelje	BN	38.1	Stillwater
Lavin Spur	BN	4.4	Cascade
Lewistown/Winifred	MILW	42.7	Fergus
Livingston/Brisbin	BN	10.3	Park
Montana City/Basin	BN	33.6	Jefferson
Moore/Harlowton	MILW	45.4	Fergus, Judith Basin, Wheatland
Newlon Junction/Richey	BN	45.4	Richland, Dawson
North Dakota State Line/ Carlyle	BN	2.9	Wibaux
Phosphate Spur	BN	3.6	Powell
Ringling/Dorsey	MILW	3.5	Meagher
Saco/Hogeland	BN	77.5	Phillips
St. Regis/Haugan	BN	19.4	Mineral
Silesia/Red Lodge	BN	34.5	Carbon



RAIL LINE ASSISTANCE ELIGIBILITY

FIGURE 3-1

LINE	RR	MILES	COUNTY
Terry/Idaho State Line	MILW	667.0	Praire, Custer, Rosebud, Mussellshell, Golden Valley, Wheatland, Meagher, Gallatin, Broadwater, Madison, Jefferson, Silver Bow, Powell, Granite, Missoula, Mineral
Yellowstone Branch	UP	9.2	Gallatin
TOTAL		1,295.3	

SOURCE: Interstate Commerce Commission Abandonment Decisions

Abandoned Lines - All rail lines abandoned after October 1, 1978, are eligible for assistance to mitigate the effect of abandonment. At the time of this Update, 1,295.28 miles of abandoned line are eligible for assistance as listed in Table 3-1 As shown, the largest amount of abandoned mileage is from the Milwaukee Road which is in liquidation. Virtually all of the abandoned lines have had or will soon have their trackage removed and the right-of-way sold. Therefore, the rebuilding of these lines would be extremely expensive.

System Diagram Lines - Each railroad is required by law to publish annually a map depicting its system. Lines on these maps are designated in five categories:

- Category I: All lines which the carrier may seek to abandon within three years;
- Category II: All lines under study by the carrier which may be subject to future abandonment attempts;
- Category III: All lines for which an abandonment application is pending before the ICC;
- Category IV: All lines that are being operated under the rail service continuation provisions in the 3R Act (Montana not eligible under the 3R act); and
- Category V: All other lines the carrier owns or operates.

Lines in Categories I, II, and III are eligible for assistance to prevent abandonment or to mitigate abandonment impacts. These lines are listed in Table 3-2. Five lines totalling 102.5 miles are in Category I. There are currently three branchlines that are listed in Category III, totalling 153.1 miles. There are no Category II lines at this time. Total mileage in Category I and III represents 7.3 percent of Montana's rail system (excluding yard track and sidings).

TABLE 3-2

SYSTEM DIAGRAM LINES ELIGIBLE FOR ASSISTANCE

LINE	RR	MILES	COUNTY
Category I - Potential Abandonment Within 3 Years			
Butte/Whitehall	BN	28.8	Silver Bow, Jefferson
Drummond/Philipsburg	BN	26.3	Granite
Sappington/Harrison	BN	9.5	Gallatin, Madison
Lewistown/Heath	BN	9.4	Fergus
Moccasin/Lewistown	BN	28.5	Fergus
TOTAL		102.5	
Category III - Abandonment Application Is Pending Before The ICC			
Manhattan/Anceney	BN	15.2	Gallatin
BAP System		115.0	Dear Lodge, Silver Bow
Mission/Wilsall	BN	22.9	Park
TOTAL		153.1	

SOURCE: Burlington Northern System Diagram Map
BAP System Diagram Map

Light Density Lines - This last group of eligible lines are those which carry relatively little traffic but have not been identified for possible abandonment, i.e., not in Category I, II, or III. Lines carrying less than 3 million gross ton-miles per mile per year(1), or, with the approval of the U.S. department of Transportation, between 3 and 5 MGTM per mile per year are eligible. These are lines which the owning railroad has listed in Category V meaning that abandonment is not imminent, but due to the low traffic level, an abandonment could conceivably occur in the medium to long term. Assistance for lines in this group is generally designed to improve the physical condition of a line so that more economical operations can be conducted. The density criterion is simply the means by which eligibility for federal assistance is established. Density is not necessarily a measure of profitability.

A large amount of trackage in Montana can be considered as light density according to this definition. Table 3-3 lists Montana's light density lines which are not already in Categories I, II, or III. Approximately 1,082 miles in this state carry less than 3 MGTM per mile (1,000 less than 1 MGTM per mile), and another 184 miles carry between 3 and 5 MGTM per mile. Approximately 39 percent of Montana's rail system (excluding yard track and sidings) is light density but is not listed in Categories I, II, or III. As shown on the map, virtually every branch line and even some main lines are technically eligible for assistance under this program.

Selection of Lines for Detailed Analysis

Since federal funding is limited and 55 percent of Montana's existing rail system is eligible for assistance (plus certain abandoned miles), the state has initiated a program

(1) Density is measured in terms of annual gross ton-miles per mile, (the total weight of cars, lading, locomotives, cabooses, and empties times distance travelled divided by the length of the line).

TABLE 3-3

LIGHT DENSITY LINES ELIGIBLE FOR ASSISTANCE

AND NOT IN CATEGORIES I, II, OR III

LINE	MILES	RANGE (1)	COUNTY
Burlington Northern			
Stryker/Eureka	23.2	0-1	Lincoln
Columbia Falls/Somers	24.9	0-1	Flathead
Dixon/Polson	33.4	0-1	Sanders, Lake
DeSmet/Paradise	64.2	0-1	Missoula, Sanders
Missoula/Darby	65.9	0-1	Missoula, Ravalli
Butte/Garrison	51.5	3-5	Silver Bow, Deer Lodge, Powell
Three Forks/Whitehall	31.4	0-1	Gallatin, Jefferson
Whitehall/Alder	45.6	0-1	Jefferson, Madison
Butte/Newcomb	9.5	0-1	Silver Bow
Helena/Great Falls	98.1	1-3	Lewis & Clark, Cascade
Shelby/Sweet Grass	38.5	1-3	Toole
Power/Choteau	28.7	0-1	Teton
Valier Jct/Valier	17.2	0-1	Pondera
Fairfield/Eastham Jct	10.8	0-1	Teton
Great Falls/Ft. Benton	44.6	1-3	Cascade, Choteau
Big Sandy/Pacific Jct	31.5	1-3	Choteau, Hill
Great Falls/Mossmain	222.7	0-1	Cascade, Judith Basin, Wheatland, Golden Valley, Yellowstone
Great Falls/Loy Spur	12.8	0-1	Cascade
Lewistown/Moore	17.6	0-1	Fergus
Glendive/Circle	53.7	0-1	Dawson, McCone

Cecil Jct/Cecil	5.0	0-1	Richland
Bainville/Opheim	146.6	0-1	Roosevelt, Sheridan, Daniels, Valley
Union Pacific			
Idaho State Line/Butte	132.3	3-5	Beaverhead, Silver Bow
Soo Line			
North Dakota State Line/ Whitetail	56.9	1-3	Daniels, Sheridan
TOTAL	1,265.7		

(1) Density In Terms Of Millions Of Annual Gross Ton-Miles Per Mile. Includes Weight Of Cars, Freight, Locomotives, And Cabooses.

SOURCE: Railroad Traffic Density Maps

where the more critical lines receive initial attention and analysis. Then lines which are in less danger of abandonment are analyzed as resources permit. Basically the lines fall into three groups and are treated as follows:

- Previously Studies Lines - Monitor to determine whether or not circumstances have changed significantly since the previous detailed analysis.
- System Diagram Lines - Newly designated lines in Categories I, II, and III are studied in detail at the time of their categorization. They are reviewed as above if they have already been analyzed.
- Light density Lines - All branchlines which carry less than 3 MGTM per mile are studied. Light density main lines and those carrying between 3 and 5 MGTM per mile are studied as resources permit.

Table 3-4 indicates the lines which have been selected for study by the State of Montana. Many of the lines selected for study in this Update were analyzed in detail in the original rail plan, the 1980 Supplement, the 1982 Update, or the 1983 Supplement. Figure 3-1 illustrates all lines that have been analyzed by Montana.

Types of Assistance

Under the federal program, four types of project assistance can be applied to eligible lines. (In addition to meeting the criteria discussed earlier, lines are eligible only if their analysis has appeared in the state rail plan, an annual update, or an amendment.) Current regulations require that 70 percent of the project cost can be funded by the federal program. The other 30 percent must come from a non-federal source such as the State of Montana, county government, regional authorities, shipper groups, or the owning railroad.

TABLE 3-4

LINES ANALYZED BY STATE OF MONTANA

LINE	RR	MILES	STATUS (1)
Analyzed Previous to 1982			
Agawan/Great Falls	BN(2)	65.6	PAB
Choteau/Fairfield	BN	19.1	LDL
Choteau/Pendroy	BN	21.2	AB
Glasgow/Glasgow AFB	BN	18.8	AB
Great Falls/Lewistown	BN/CMR(2)	138.1	PAB
Great Falls/Loy Spur	BN	12.8	LDL
Haugan/Idaho State Line	BN	18.9	AB
Hesper/Rapelje	BN	38.1	AB
Lewistown/Geraldine	BN/CMR	74.5	LDL
Lewistown/Harlowton	MILW	62.3	AB
Lewistown/Heath	BN	10.5	I
Lewistown/Moore	BN	17.6	LDL
Lewistown/Winifred	MILW	42.7	AB
Livingston/Brisbin	BN	10.3	AB
Missoula/Darby	BN	65.9	LDL
Moccasin/Spring Creek	BN	21.5	I
North Dakota Line/Carlyle	BN	2.9	AB
Power/Eastham Jct	BN	21.2	LDL
Ringling/White Sulpher Springs	YSSYP	22.8	AB
Saco/Hogeland	BN	77.5	AB
Sappington/Harrison	BN	9.5	I
Silesia/Red Lodge	BN	34.5	AB
Whitehall/Alder	BN	45.6	LDL
Analyzed 1982			
Bainville/Opheim	BN	146.6	LDL
Big Sandy/Ft. Benton	BN	40.8	AB

Brazil Creek Spur	BN	18.7	LDL
Butte/Whitehall	BN	28.8	I
Circle/Brockway	BN	10.5	AB
Columbia Falls/Somers	BN	24.9	LDL
Dixon/Polson	BN	33.4	LDL
Drummond/Philipsburg	BN	31.2	I
Durant/Brown	BAP	18.2	III
Fromberg/Bridger	BN	6.1	AB
Glendive/Circle	BN	53.7	LDL
Lavin Spur	BN	4.4	AB
Manhattan/Anceney	BN	15.2	III
Mission/Wilsall	BN	22.9	I
Montana City/Basin	BN	33.6	AB
Newlon Junction/Richey	BN	45.4	AB
Nichols Wye/Big Sky	BN	39.1	(3)
North Dakota State Line/Whitetail	SOO	56.9	LDL
Phosphate/Mile Post 4	BN	3.6	AB
Sarpy Jct/Kuehn	BN	35.9	(3)
Stryker/Eureka	BN	23.2	LDL
Three Forks/Whitehall	BN	31.4	LDL
Valier Jct/Valier	BN	17.2	LDL

Analyzed 1983

Silver-Bow/Idaho State Line	BN	133	LDL
Moore Sipple Connection	BN	5	LDL

Analyzed 1984

Bainville/Opheim	BN	146.6	LDL
Brazil Creek Spur	BN	18.7	LDL
Butte, Anaconda & Pacific (RR)	BAP	115.0	III
Butte/Whitehall	BN	28.8	I
Dixon/Polson	BN	33.4	LDL
Drummond/Philipsburg	BN	31.2	I
Great Falls/Fort Benton	BN	44.6	LDL

Lewistown/Heath	BN	9.6	I
Missoula/Darby	BN	65.9	LDL
Moccasin/Geraldine	CMR	87.5	LDL
Newlon Junction/Richey	BN	45.4	AB
North Dakota State Line/Whitetail	SOO	56.9	LDL
Pacific Junction/Big Sandy	BN	31.5	LDL
Phosphate Spur	BN	3.6	AB
Saco/Loring	BN	79.3	AB
Sipple/Lewistown	BN	24.0	LDL
Snowden/Glendive	BN	80.0	LDL
Whitehall/Alder	BN	45.6	LDL

(1) I - Category I, could be abandoned within 3 years.
II - Category II, abandonment under study by railroad.
III - Category III, abandonment decision pending before ICC.
LDL - Light density line not subject to abandonment at this time.
AB - Abandoned
PAB - Partially abandoned

(2) Indicates owning railroad of line section presently in service.

(3) These two lines do not meet assistance criteria due to high traffic volume but are reviewed because they carry coal.

SOURCE: Montana Department of Commerce

Federal assistance may be applied to lines in several ways or in a combination:

Rehabilitation Assistance - Funds may be used to place eligible lines into stable physical condition so that long term operating efficiencies can be obtained. A line is eligible for such assistance under the federal program if the line is not abandoned and/or any pending abandonment application is withdrawn by the carrier before federal funds are committed; and the line is certified by the owning carrier as having carried less than 3 MGTM per mile during the prior year, or DOT has approved a line carrying between 3 and 5 MGTM per mile during the prior year.

New Construction Assistance - Sometimes the financial viability of a line can be enhanced by constructing a connection track to another rail line or by the lengthening of an existing siding. Impacts of abandonment can also be reduced by construction of a team track at a nearby location where one does not now exist. The assistance would be an amount required to build such facilities. Rail lines eligible for this assistance are the same as those described under rehabilitation.

Substitute Service Assistance - To alleviate the adverse impacts of abandonment, assistance could be offered to provide alternative means of transport in a manner less expensive than continuing rail service. Rail user relocation costs are also included in this category.

Acquisition Assistance - Finally, abandoned lines can be acquired under this program. This entails the offer of an amount needed to purchase the line for operation by another carrier. If a purchaser acquires an abandoned line to start a shortline railroad, the purchaser must first apply to the ICC for a Certificate of Public Convenience and Necessity to operate the line. Once the Certificate is granted, then the line is eligible for rehabilitation or construction assistance.

CHAPTER FOUR

RAIL LINE ANALYTICAL PROCEDURES AND DATA SOURCES

CHAPTER 4
RAIL LINE ANALYTICAL PROCEDURES AND DATA SOURCES

The State of Montana analyzes its lines in an impartial manner in order to compare the relative economic benefits of line assistance with the relative public cost of such assistance. The basic analytical tool applied to these lines is benefit/cost analysis. However, other analyses include economic growth potential, environment, and energy. The benefit-cost studies are based on standard principles of economic analysis. Costs are either program outlays or economic disbenefits associated with the assistance project. Benefits are either increases in the value of output or real reduction in economic cost.

General Principles and Procedures

This section describes how the lines were analyzed, and the next section describes the manner in which the lines were evaluated for assistance purposes. Together these two sections constitute this State's benefit/cost methodology used to establish eligibility for federal railroad assistance funds. The analytical methodology considers projects in four areas: rail rehabilitation as a part of continued service, rail line construction as a part of continued service, acquisition, and substitute service. Each of these assistance types was evaluated individually or in combination if an initial analysis indicated the practicality of conducting a more detailed analysis.

Costs - Potential assistance was evaluated for each line if an initial analysis indicated that such assistance might be feasible. Acquisition assistance was evaluated based on

approximate values of right-of-way and the net salvage value of the track (materials) and other facilities. Rural land values vary by location but were standardized at assumed values based on the type of land and location. Actual final acquisition costs could vary depending upon purchase negotiations between the parties. To operate these lines by another carrier such as a shortline could also necessitate rehabilitation. Costs for new construction and substitute service were developed on a case-by-case basis.

Rehabilitation cost estimates were developed by the Transportation Division on the basis of field inspections. The calculated rehabilitation cost is defined to be the amount necessary to stabilize a line so that normal annual maintenance can then be made to keep the line at an appropriate standard (usually 25 mph speed limit at a minimum). Unit costs for materials and labor, for construction and rehabilitation alternatives, were determined based upon information furnished by railroads, materials suppliers, and the Division's experience in railroad engineering. These unit costs are tabulated with each detailed line analysis.

Any economic disbenefits of the alternative projects were also counted as costs. These disbenefits would include, for example, the railroad operating cost and return on value if the project would cause a retention of rail service.

Benefits - The differences between conditions with and without an assistance project are considered to be the benefits of the project. These benefits include economic costs avoided or gains achieved. If a line is abandoned, then the former rail users and the surrounding community may experience higher costs in order to move their product or to receive goods from elsewhere. The abandoning railroad on the other hand, enjoys a benefit by ridding itself of an unprofitable line. Additionally, shippers and the community can also experience changes in

employment, tax base, personal income, and others. As used in this analysis for all lines that were analyzed in detail, benefits are defined as those incremental economic impacts which could occur after abandonment but which could be prevented by the continuation of rail service. Finally, under certain circumstances, benefits also include the improved service levels that may follow after rehabilitation as well as railroad operating savings.

Analysis Perspective - It is especially important to define the perspective from which the analysis is made. For example, it might be argued that the abandonment of an unprofitable branchline could cause a shipper or receiver to close with a resultant loss of employment and personal income and increased driving distance for the shipper's customers or suppliers. From a local viewpoint, this closure has a large impact because the user might have been the only similar business for miles. Yet, the loss in one community might be offset by increased railroad efficiency which could benefit many communities, or might cause that business to reopen in another community. From the railroad's viewpoint, the abandonment of an unprofitable line is obviously a benefit. The possible benefit to other communities or a railroad is, of course, of little comfort to the town that has lost a business because of a rail abandonment. However, the viewpoint adopted for use in this analysis is that of weights and balances between all perspectives. The state must represent all citizens equally. Where a transfer cost of cost savings is made, for example, between communities or from the state government, the transfer is noted but is not included as a statewide economic cost of benefit.

The calculation of economic benefits wherein abandonment is the likely outcome if no action is taken involves several components as discussed below. Central to the analysis is the reaction by shippers to the loss of rail service. This

reaction was ascertained via interviews utilizing the forms presented in Appendix A. These interviews were conducted by the Department of the Summer of 1984.

Shipper Data - Customer lists were obtained from the railroad companies and were supplemented by other sources and by the Department. These customer lists were verified, and an independent interview was held. To aid in this analysis, certain information concerning each shipper/receiver was compiled on the standard interview forms. Included on these forms were questions relating to:

- Nature and size of business;
- Rail facilities utilized;
- Commodities shipped and/or received by rail;
- Quantities of shipments;
- Origins and/or destinations;
- Proportion of rail usage to total transportation;
- Alternatives to present rail service; and
- Impacts should branchline be abandoned.

Through the use of these standard questions, insights were obtained regarding the potential effects on shippers and receivers of a possible loss of direct rail service. These impacts were categorized and analyzed as follows.

Rail Dependency - In some cases, the rail users were found to be relatively dependent upon rail service because of the bulk nature of the commodities involved, distances to origins/-destinations, or volume of the movements. For these reasons, these commodities could not be hauled practically or economically by another mode. Other rail users were found to be less dependent upon rail because of smaller volumes, short distances to origins/destinations, or commodities that would lend themselves to transport by other modes. Impacts of rail abandonment on such users thus would tend to be less severe. Each

business which used rail was assessed according to these criteria, and shippers with extreme rail dependency were identified.

Employment/Income - In a study of this nature, it is impossible to predict exactly what each shipper/receiver would do when faced with loss of rail service. Some observations, however, can be made. The most extreme case of direct employment impact would be if a business were forced to close. Less severe would be the case of a business which was forced to scale down operations or forego planned expansions. In other cases, it would be possible for direct employment levels to increase because of the necessity of adding personnel such as truck drivers. Possible impacts in this area were obtained in the interviews, and a total impact was determined for each line.

Since these impacts also have direct effect on the communities, the total loss or gain in employment was reported for each branchline. Indirect employment losses were also estimated using multipliers based on the types of employment in the area of each line. All employment impacts were assumed to be short term unless specific information indicated otherwise.

Just as line abandonment affects employment, it also affects the total payroll of workers in a community. Through the rail user survey, potential job losses or gains were identified along with the wage levels of the impacted jobs. Indirect employment losses were also estimated using area multipliers.

Cost Impacts - The principal assessment criterion of shipper/receiver impact is the cost change brought about by a change in service. For businesses which do not close, this cost change is generally an increase in transport and handling costs. Businesses located on their own sidings can load or

unload directly, but must incur additional handling costs if a loss of rail service necessitate loading or unloading between a rail car and a truck. Additional costs are also incurred in transporting the commodity from the unloading point to the place of business. All-truck movements were also evaluated if the interviews identified this reaction to abandonment. The method was normally used to estimate increased transport costs unless the user had investigated other transport means and quantified the cost differential. The cost of alternative transportation will naturally vary according to the specific characteristics of the branchline traffic and the available alternatives. In an effort to standardize the analysis, common unit economic costs were applied to each branchline.

The unit trucking and transfer costs on a per ton and ton-mile basis were developed utilizing current economic costs in a manner similar to the procedure derived in a study prepared for the Federal Railroad Administration (1). The cost of construction or relocating any necessary unloading facilities was also included if found to be appropriate.

Railroad costs were also calculated using system average unit costs provided by the carriers.

Current unit prices (freight rates) were obtained from the rail users the owning railroad, and from published tariffs. These rates and the costs described above were then used to estimate rail line profitability.

Highway Impact Estimate - In some cases, the loss of rail service on a light density line will result in significant highway impacts. Commodities previously moved by rail will be moved by truck over area highways. A Highway Impact Model was

(1) An Economic Analysis of Upgrading Rail Branchlines: A Study of 71 Lines in Iowa, C.H. Baumel, et al., Iowa Department of Transportation and Iowa State University, for Federal Railroad Administration, March, 1976.

used to determine impact costs resulting from the abandonment of selected lines.

The Highway Impact Model was written by the Department of Highways and is used by the Department of Commerce. The model estimates the impact that would result from increased truck traffic resulting from an abandonment. The model requires that the analyst provides: a) the number of truck trips that would be placed on the highway; b) a load factor which reflects the mix of the kinds of trucks being used and their axle loadings; and c) a design 18 KIP factor, which indicates the design standard to which the highway was built.

From these inputs, the model generates an annual impact cost for each section of highway. The resulting dollar figure is a measure of damage; it is a measure of the difference in costs between having and not having the extra trucks on the highway. In other words, placing more trucks on the highway shortens the life of the highway, and this figure is a dollar measure of the lost life of the highway. Available impact cost estimates were included in the benefit/cost analysis.

Energy - These impacts are two-fold: a savings of rail fuel due to the cessation of train operations and an increase in truck and/or barge fuel consumption due to additional truck/barge trip requirements. Fuel changes can be estimated utilizing the following energy consumption factors (2):

- Rail, short haul - 55 ton-miles/gallon
- Rail, long haul - 270 ton-miles/gallon
- Truck, short haul - 65 ton-miles/gallon
- Truck, long haul - 55 ton-miles/gallon
- Barge - 300 ton-miles/gallon

(2) Assessment of Environmental Impacts Associated with Railroad Abandonment Proposals, Office of Proceedings, Environmental Affairs Staff, Interstate Commerce Commission, October, 1976.

The cost for these fuel consumption changes are not reflected directly in the benefit/cost analysis. Instead, this cost is part of the total alternative operating cost described earlier.

Environment - Finally, observations were made to determine significant effects on the environment. Truck traffic, of course, would increase with rail abandonment; but when compared with the average daily highway traffic, the quantity is normally insignificant. Emission levels would thus change only marginally. In recognition of this fact, the Interstate Commerce Commission, in considering abandonment cases, requires the calculation of air and noise level increases only if the motor carrier traffic would exceed 30 vehicles per day or 10 percent of a particular segment. Other effects would be associated with line dismantling operations, and it is doubtful that any long-term environmental effects would ensue.

Benefit/Cost Analytical Methods

The previously discussed factors were quantified where possible, and benefits and costs were then calculated. For analysis purposes, alternatives for preservation of rail service were developed and compared to a base case. Unless otherwise stated, the base case utilized was the null or "do nothing" alternative. It was assumed for System Diagram lines and the light density branchlines that the null alternative would result in the eventual abandonment of the rail line under scrutiny. Consideration of substitute service assistance was assessed and compared with other user alternatives for receipt or shipment of traffic. For cases in which he consequence of inaction is not abandonment in the near term, the base case (unless stated otherwise) was assumed to be the status quo.

Discount rate - All costs and benefits were discounted at a rate of four percent over the project life. This discount rate was deemed representative of the opportunity cost of funds

as opposed to current interest rates in which a large portion of the rate reflects inflation. For an economic analysis such as this Annual Update, only the opportunity cost component is considered to be relevant. By discounting in this manner, all benefits and costs are in terms of constant dollars.

Period - With few exceptions, the life of alternative projects considered was established at 10 years. This term was deemed as a desirable goal from a state viewpoint in order to consider the project as a long term benefit. The state realizes that actual project life may, subject to negotiations, be of a different duration and project life adjustments will be made accordingly as such time as negotiations have sufficiently progressed to indicate a change in terms.

Project Costs - The total cost of each alternative was estimated as discussed earlier. This cost represents the cost to construct and/or implement the project as well as any economic disbenefits of the project. Where project investment, such as rehabilitation or new construction, may have value remaining at the end of the project life, this was taken into account by consideration of the discounted salvage value of the investment at the end of the analysis period as a project benefit instead of a reduction of project costs.

From the user's viewpoint, the continuation of rail service prevents cost changes; but from the railroad's viewpoint the continuation of rail service may result in a cost to them of providing the service on the line. This becomes a disbenefit to the railroad, especially when the same traffic could be retained at another point at lesser cost. To estimate these on-branch costs, unit costs were developed for each line based on specific costs attributable to that line. Where traffic was anticipated to be retained at another point, the costs were reduced by the anticipated costs of providing service at the branchline station. For example, traffic

delivered to an alternate team track still requires switching for set out and pick up, and car costs are still incurred.

Project Benefits - Economic benefits arising from the continuation of rail service depend on the perspective taken in the analysis. The analysis from a state perspective requires the examination of total costs avoided or gains achieved in the process. This requires consideration of the impacts of the proposed action on all parties involved. The analysis is approached from a total cost standpoint as a measure of the economic resources devoted to the alternatives under consideration.

Transportation Benefits - Changes in transportation needs due to the elimination of rail service require a reallocation of resources from one mode to another. Also resources are used in the transfer of freight between modes. For example, commodities that previously moved totally on the rail line will now either be moved completely by another mode or will move to a team track at another rail station and be transloaded and then moved by rail or truck. These methods of transportation service were the most commonly anticipated results of rail abandonment found in preparation of this Update. Where users were not sure of their alternative course of action, the use of an alternate rail point and transfer from or to truck was the assumed course of action.

For analysis purposes, the net change of the two types of transportation costs was calculated, i.e., the difference in the two costs was considered the cost impact of the alternative project. In addition, to these cost differences, the procedure also addresses changes in the traffic level which are caused by a change in service. For example, additional transportation costs after an abandonment may cause a business to reduce its production level.

The changes in transportation costs which are prevented by an abandonment are termed "primary efficiency benefits" and are calculated according to the following formula (3):

$$(B1-B0) = Q0(C0-C1) + 0.5\ (PO-P1)(Q1-Q0) + (P1-C1)(Q1-Q0)$$

Where (B1-B0) = Change in benefits from Alternative 1 over Alternative 0.

Q0, Q1 = Quantity moved before and after alternative implementation.

C0, C1 = Gross cost per ton to move the traffic before and after alternative implementation.

P0, P1 = Price per ton to move the traffic before and after alternative implementation.

In the above formula, the first term is the cost change on existing traffic, the second term is the consumer surplus on new traffic, and the last term is the producer surplus on new traffic.

Relocation Benefits - Users dependent on rail service may be required to either relocate their entire business or some portion of it in order to avail themselves of rail service at an alternate point. These cases were ascertained in the user interviews, and the costs of such actions were considered a benefit of rail service retention. In the case of substitute service assistance, those costs considered as benefits of rail service continuation then became project costs. Another type of relocation benefit occurs if a business closes and the consumer has to travel to more distant points to make purchases. When this occurs the expense of the additional travel is considered a benefit if the alternative prevents the expense from occurring.

(3) Benefit-Cost Guidelines - Rail Branchline Continuation Program, Federal Railroad Administration, Washington, D.C., February, 1980.

Employment Benefits - Unemployment resulting from a business closure is effective only until such time as the former employee(s) has obtained other employment. It is also assumed that the former employee is rehired within the state (unless information is obtained to the contrary). The measure of the benefit then becomes the lost wages for the unemployment period. Unemployment compensation is considered a transfer cost from the state perspective and as such is not a benefit or disbenefit. From a local viewpoint, however, the employment loss is reduced by unemployment compensation as the compensation results in a gain or reduction of loss in the local area.

The benefits and costs discussed above were analyzed in terms of:

- Benefit/Cost Ratio - Total project benefits divided by total costs (including any project disbenefits);
- Net Present Value - Total project benefits less total costs; and
- Distribution of Benefits - The effects that a project has on the various parties involved.

The State of Montana considers each of these analyses to be equally important because they distinguish between the total effects of a project and the beneficiaries of the project.

Benefit/Cost Ratio - This ratio (B/C) is calculated by dividing the present value of the benefits by the present value of the costs of an alternative. Ratios that exceed 1.0 indicate that, from a public policy viewpoint, expenditure of public funds is justified since benefits exceed costs. Furthermore the comparison of the magnitude and the difference of ratios for mutually exclusive projects is one way to distinguish between alternatives.

The benefits utilized for this ratio are in terms of real economic changes in the use of resources and specifically exclude transfer payments such as taxes and unemployment compensation. Benefits of a project which can be included are listed below.

- User incremental transportation and handling costs;
- User net relocation cost;
- User net equipment costs;
- Railroad net costs;
- Personal income loss;
- Salvage of rail project materials at end of analysis period, e.g., rehabilitation; and
- Highway impact costs.

Of course, not all of the above benefit categories would necessarily be included in every particular case because the benefits might be zero or at least very small in relation to the total benefit.

The costs of the ratio are considered to be the total funds (regardless of federal/nonfederal share) required to implement the project plus any project disbenefits as discussed earlier. The types of costs are described earlier and include for Montana's purposes:

- Rehabilitation;
- New Construction;
- Substitute Service; and
- Acquisition.

Net Present Value - Whereas the previous calculation is a relative measure of the discounted project benefits and costs, the net present value (NPV) is a measure of the absolute difference between benefits and costs. Thus, if the net present value is positive, the project should be accepted and

if it is negative, the project should be rejected (in a strict economic sense). For competing mutually exclusive projects, the project with the higher NPV should be chosen (again, in a strict economic sense).

Under ordinary circumstances both the benefit/cost ratio method and the net present value method will lead to the same conclusions regarding project selection. However, when the cash flow of one project increases while the cash flow of a competing project decreases, then the two methods may yield different rankings. The same conflict can occur if the cost of one project is significantly different from the other. In such cases the generally accepted procedure is to use the net present value method.

Distribution of Benefits - In order to provide a clearer picture of the alternative actions, the distribution of benefits or disbenefits is shown for each analysis. This permits an overview of the impacts on each group involved in the potential action. It also provides another means of evaluating the action without strict reliance on the benefit/cost analysis and as such may provide insights into alternative actions where one party may be unduly impacted as compared to others. In this manner, for example, shipper benefits and disbenefits can be distinguished from railroad benefits and disbenefits.

Evaluation of Projects

Each alternative is evaluated in terms of the benefit/cost ratio, and net present value, and the distribution of benefits. In general, ratios over 1.0 or NPV's greater than zero are indicative of "good" projects from a strict economic viewpoint, but the state places higher emphasis on those projects (which might have lower B/C ratios or net present values) which benefit its citizens instead of other parties. It is important to note that from both a state and national viewpoint,

potential projects with B/C ratios less than 1.0 are not automatically excluded from project funding. A dependence upon these values can sometimes overlook other important criteria. For example, a ratio based on historic traffic levels which have been distorted due to car availability, weather, and unusually low or high demand could lead to inappropriate conclusions. Environmental factors are generally not included in the benefit/cost analysis. Likewise, the potential for area growth and the level of local interest in service preservation are issues which should be addressed. These other considerations are also evaluated qualitatively to the extent possible for each line.

Table 4-1 summarizes the project selection procedure followed for this Update. As shown, the procedure first identifies the preferred project(s) for each line considered separately. Then the procedure ranks the preferred projects for all lines in order to obtain a project priority ranking. In both cases both quantitative and qualitative aspects of the lines are considered.

TABLE 4-1

RAIL ASSISTANCE PROJECT

SELECTION AND RANKING CRITERIA

A. Selection of Preferred Project(s) for a Single Line

1. Calculate present value of project benefits (PVB) and costs (PVC).
2. Calculate net present value (NPV) of benefits and costs. NPV = PVB-PVC.
3. Calculate benefit/cost ratio (B/C). B/C = PVB/PVC.
4. Divide potential projects into those which would retain or improve rail service and those which would minimize abandonment impacts.
5. For each group of projects, select the project with the highest NPV. This project for each group is the preferred project.
6. Adjust as needed for nonquantifiable or unusual circumstances.

B. Ranking of Preferred Projects

1. Place all preferred projects with B/C greater than 1 in Serious Consideration category. Rank projects within category in descending order of NPV.
2. Place all preferred projects with B/C less than 1 in Potential Consideration category if there would be little rail user impact of abandonment. Rank projects within category in descending order of NPV.
3. Place all other lines in Little or No Consideration category. The abandonment of these lines would have little direct impact on the state.
4. Adjust as needed for nonquantifiable or unusual circumstances.

CHAPTER FIVE

LINE ANALYSIS

CHAPTER 5
LINE ANALYSIS

This Chapter represents the primary reason for writing the 1984 Annual Update of the Montana Rail Plan. Contained herein are the detailed analyses of the eighteen lines listed earlier in Chapter 3 and illustrated in Figure 3-1. These rail lines are analyzed according to the procedures described in Chapter 4. The ranking of these lines for project funding purposes is the subject of Chapter 6.

The first section of this Chapter describes previously studied lines that are not analyzed in detail in the 1984 Update.

PREVIOUSLY ANALYZED LINES

Agawan to Great Falls - MILW/BNRR, 65.6 Miles

This entire line was first analyzed in 1979 as a Category I Milwaukee Road Line. Since then, the sections from Agawan to Choteau and Fairfield to Vaughn have been abandoned, and the BNRR presently operates on the section from Choteau to Fiarfield, which is accessed by a connecting line between Eastham Junction and Power.

Big Sandy to Fort Benton - BNRR, 41 Miles

This segment of a previously 119 mile line from Great Falls to Pacific Junction was abandoned in 1983 and the physical plant has been salvaged. The nearest rail service to Loma, the only significant shipping station on the line, is located at Fort Benton or Big Sandy.

Choteau to Fairfield - BNRR, 18.3 Miles

This line was first analyzed in 1979 as a Category III Milwaukee Road Line. Since the BNRR purchased the line, it has been reclassified a light density line. The line was rehabilitated by agreement with the State of Montana and BNRR. Rehabilitation consisted of 18,900 crossties, increased rail anchors, grade resurfacing, and 115-lb continuous welded rail. Operating speed was upgraded to 25 mph and the maximum gross weight limit of a car and its lading is 263,000 pounds.

Choteau to Pendroy - BNRR, 22.7 Miles

This line was abandoned July 29, 1983. The line operated at a loss in 1979 with 143 cars of revenue traffic; 1980 produced 102 cars of revenue traffic. The 1980 Rail Plan suggested this line might produce a profit, if Milwaukee traffic were added at Choteau.

Circle to Brockway - BNRR, 10.5 Miles

This line was the last segment of a 64-mile branch which extended west from Glendive. This line was abandoned and the physical plant salvaged in 1983. This line generated farm commodities which are now diverted to Circle.

Columbia Falls to Somers - BNRR, 25 Miles

This branchline is in Category V which means it is a light density line and there are no immediate plans for abandonment. Principle products on this line are lumber and farm commodities.

Fromberg to Bridger - BNRR, 6.1 Miles

This branchline was abandoned in 1983 and the physical

plant salvaged. Principle commodity traffic on this line included farm products and chemicals. Loss of traffic on the line was due to large reductions in barley shipments.

Glasgow to Glasgow AFB - BNRR, 18.8 Miles

This line has been abandoned and the track has been salvaged.

Glendive to Circle - BNRR, 53.7 Miles

This branchline is in Category V which means this light density line is not a candidate for abandonment in the near future. Principle commodity traffic on this line include farm products, chemicals, and nonmetallic minerals.

Great Falls to Lewistown - MILW/BNRR/CMR, 138.1 Miles

This line was first analyzed in its entirety in 1979 as a Category I Milwaukee Road Line. Since then, the line between Geraldine and the Loy Spur has been abandoned and salvaged. The BNRR operates on the Loy Spur, and the CMR operates on the Geraldine to Spring Creek Junction section.

Great Falls to Loy Spur - BNRR, 12.8 Miles

This branch was originally analyzed in 1979 as part of the Milwaukee Road's Category I line from Great Falls to Lewistown. This branch is now operated by BNRR under Category V, which means abandonment is not a possibility in the near future. The line is a light density line that carries ordinance and commodities to Malmstrom AFB.

Haugan to Idaho State Line - BNRR, 18.9 Miles

The line was initially analyzed in 1979 as a Category III

line in the Milwaukee Road System. Abandonment was granted in 1979 and the physical plant has been removed.

Hesper to Rapelje - BNRR, 38.2 Miles

When first analyzed in 1980 this line was classified Category V. Since that classification, this line has been classified Category I and abandonment was official in 1983. The physical plant has since been salvaged.

Lavin Spur - BNRR, 4.4 Miles

This line was abandoned in January of 1985. Records show very low traffic in recent years. Revenue traffic was in coal and farm products.

Lewistown to Harlowton - MILW, 623 Miles

This line was first analyzed in 1979 as a Category I Milwaukee Road Line and has since been abandoned and salvaged.

Lewistown to Winifred - MILW, 42.7 Miles

This grain line was analyzed as a Catetory III Milwaukee Road Line in 1979 and has been abandoned and salvaged.

Livingston to Brisbin - BNRR, 10.3 Miles

This line was initially studied in 1980 as a Category V line. Since that time, it has been formally abandoned and the physical plant has been salvaged.

Manhattan to Anceney - BNRR, 15.2 Miles

This line was recently reclassified from Category I to Category III, meaning abandonment awaits ICC decision. The

anticipated abandonment date is September, 1985. This line is in poor condition and cannot accommodate fully loaded covered hoppers. Nearly all traffic is generated at Amsterdam, seven miles from the mainline.

Mission to Wilsall - BNRR, 23 Miles

This line has remained in Category I for about four years, and was recently placed in Category III. It is a candidate for abandonment. Because there is easy access to an interstate system, trucking has caused the rail traffic to dwindle. Chadborn accounted for much of the traffic over this line, but the operator there has closed. This line operates with speed and weight restrictions indicating a deteriorating rail condition.

Montana City to Basin - BNRR, 34.1 Miles

This line was formally abandoned in August, 1982. The physical plant has been salvaged and Interstate 15 covers part of the rail grade. Flooding in May of 1981 forced closure of the rail for a year prior to abandonment. All rail traffic has converted to truck.

Nichols Wye to Big Sky - BNRR, 39 Miles

This high density, well maintained branchline is not eligible for assistance, but this summary is included to document the inventory of the line. This line carries significant quantities of coal and is not a candidate for abandonment.

North Dakota State Line to Carlyle - BNRR, 2.9 miles

This line was classified as Category V in May, 1980 after a previous Category I designation. The line was subsequently reclassified Category I and formally abandoned. The physical plant has been removed as salvage.

Power to Eastham Junction - BNRR, 21.2 Miles

BNRR and the State of Montana signed an agreement in March, 1982 to rehabilitate two branchlines in Teton County. The Power to Eastham Line was initially analyzed in the 1980 Rail Plan Supplement. Rehabilitation included replacing ties, increased anchoring and resurfacing the grade.

Power to Pendroy - BNRR, 44.5 Miles

This BNRR grain line was first analyzed in 1979 as a Category V line. The Power to Choteau section is operated on by the BNRR, but the Choteau to Pendroy section has been abandoned and salvaged.

Ringling to White Sulphur Springs - YSSYP, 22.8 Miles

This abandoned line's principal commodity was wood chips and it connected to the Milwaukee Road's mainline at Ringling. It was analyzed in 1979. The track has been salvaged.

Sappington to Harrison - BNRR, 10.0 Miles

This line was first analyzed in 1980 as a Category V line. Since that time, the line has been designated as Category I which means it is a candidate for abandonment in the near future. This line generated 16-90 cars of traffic in recent years but is not expected to generate increased traffic in the future. There is no community impact expected as a result of abandonment.

Sarpy Junction to Kuehn - BNRR, 35.9 Miles

This high volume coal transportation line is well maintained and permits 315,000-lb maximum gross weight limits. Due to high and heavy volumes the rail shows considerable wear.

Track is continuous welded rail with good ties, ballast and track components. There is little possibility of this line being abandoned in the near future.

Silesia to Red Lodge - BNRR, 34.5 Miles

This line was initially analyzed as a Category III candidate in 1979. Since that time it has been abandoned and the physical plant has been salvaged.

Stryker to Eureka - BNRR, 23 Miles

This is a Category V line which means there are no immediate plans for abandonment. Revenue generating commodities are, as a rule, forest products manufactured by three different rail users. Since June, 1982 most of the wood chip traffic has been lost to trucks.

Port of Montana Grain Subterminal

This project was initially presented in the 1983 Montana Rail Plan Supplement when it was in the rudimentary stages of planning. Since that time, the grain terminal has reached approximately 90% completion. The facility operator is in place and trade is underway.

Three Forks to Whitehall - BNRR, 31.4 Miles

This branchline remains in Category V after being re-evaluated by the BNRR. This line is part of a little used branchline from Logan to Garrison. There are few commodities that originate or terminate on this section. Virtually all traffic on the Three Forks to Whitehall section originates on the Whitehall to Alder branchline.

Valier Junction to Valier - BNRR, 17 Miles

This light density line has recently been rehabilitated by the BNRR as the result of an agreement with the State of Montana. This line operates at 25 mph on continuous welded rail, substantial numbers of new crossties, and rail anchors. There are no plans to abandon this line at the present time.

BAINVILLE TO OPHEIM
Burlington Northern Railroad

This branchline, illustrated in Figure 5-1, extends 146.6 miles from a BNRR mainline at Bainville through four counties in northeastern Montana. The line serves approximately 15 stations with the largest in terms of carloads being Plentywood and Scobey. The principal originating traffic is farm products, mainly wheat, and the principal terminating traffic is chemicals, mainly fertilizers.

The status and issues concerning this line are as follows:

- Light density line which has not been identified for possible abandonment.
- Very long branchline.
- Major segments in poor condition due to lightweight rail and poor ties.
- Some significant mainline competition for subterminals and other elevators, particularly for branchline stations between Redstone and Opheim; segment toward Bainville experiences less competition from the mainline.
- Some elevators working together to get 26-car multiple origin rates.
- Truck competition exists but distance to market and rail rates tend to keep significant volumes on rail.
- Over 90% of the barley moved by rail in 1983 was shipped to California using 3-car and single-car rates.
- A grain subterminal facility has been built in Plentywood.
- Several small elevators in the Scobey area have

merged with a new subterminal facility in Scobey and serve as collector or satellite facilities.

Rail Use

Table 5-1.1 summarizes 1983 railroad use statistics. A total of 3,574 carloads were transported with over 97 percent being outbound grain shipments, and the remainder inbound fertilizer and farm machinery. Plentywood was the busiest of the 25 stations followed by Scobey, Froid and Peerless. The shippers/receivers using the stations are listed in Table 5-1.2 along with their primary commodities shipped.

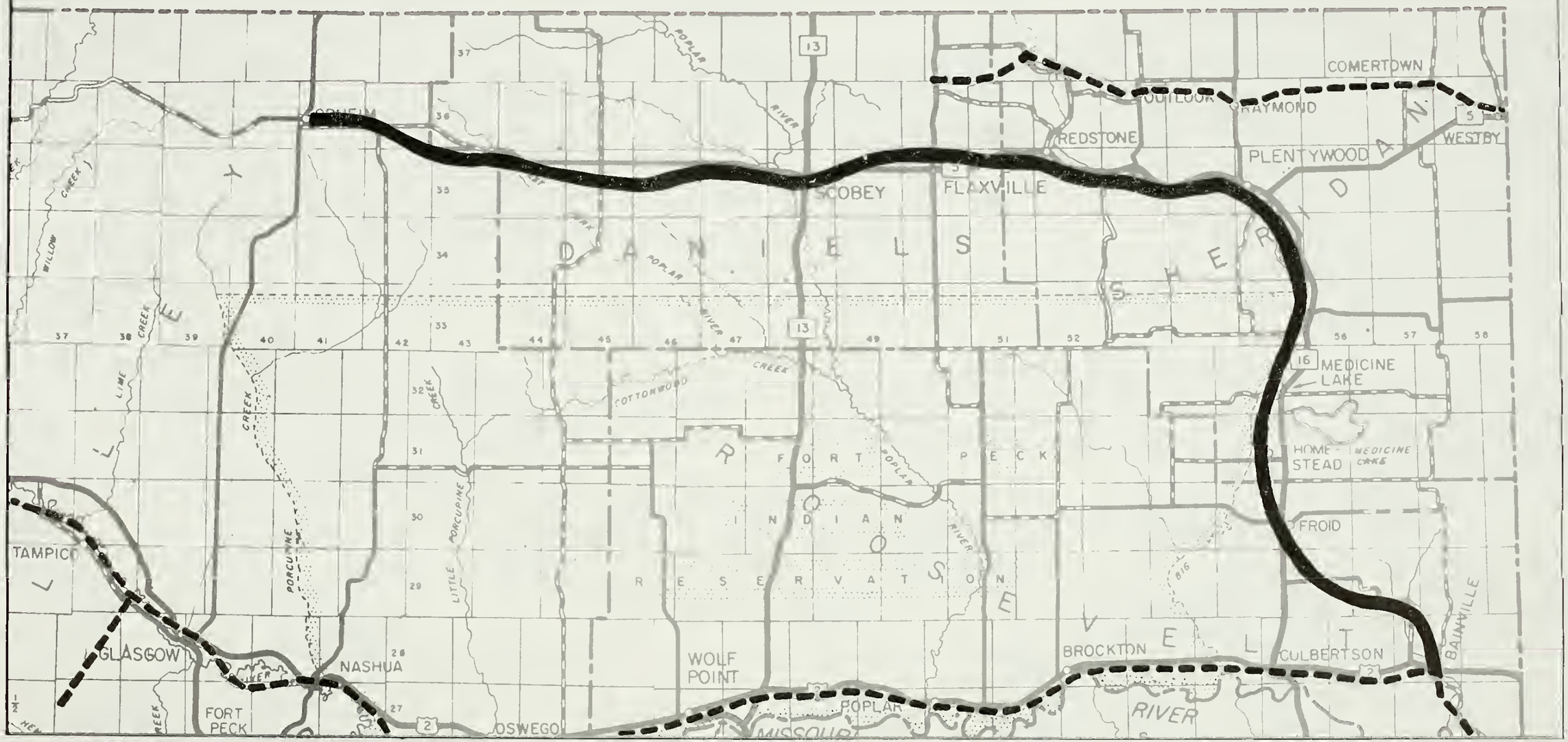
Rail Service

The BNRR serves this line twice a week; but due to the length of the line and the speed limits, approximately two days are required for each round-trip. Speed limits vary between 25 and 35 mph.

Bainville to Opheim - Information from the shipper surveys, tariffs, and other sources indicate that the BNRR received revenues of approximately $12.9 million. The on-branch costs (including opportunity costs) of the line are $2.9 million, and off branch costs are $3.5 million, resulting in a profit of $6.4 million. The estimated revenue and cost of service is shown in Table 5-1.3(a).

Information provided by the BNRR indicates that the line produced a profit of $2.7 million. These revenues and costs are detailed in Table 5-1.3(b).

Plentywood to Opheim - On this portion of the line, the BNRR received revenues of approximately $5.8 million. The on-branch costs are $1.3 million (including opportunity costs), and off-branch costs are $1.9 million, resulting in a profit of



LEGEND

SUBJECT LINE

ALL OTHER LINES

RAILROAD : BURLINGTON NORTHERN
LENGTH : 146.6 MILES
COUNTIES : ROOSEVELT, SHERIDAN, DANIELS, VALLEY
STATUS : LIGHT DENSITY LINE

BAINVILLE - OPHEIM

FIGURE 5-1

TABLE 5-1.1

RAILROAD USE STATISTICS - 1983

Bainville to Opheim

	CARLOADS		TONS		
STATION	NUMBER	PERCENT	NUMBER	PERCENT	COMMODITY
		Originating			
Opheim	229	6.4	22,500	5.8	Grain
Glentana	65	1.8	5,600	1.4	Grain
Richland	236	6.6	23,364	13.6	Grain
Peerless	290	8.1	28,500	7.3	Grain
Four Buttes	100	2.8	9,800	2.5	Grain
Scobey	302	8.4	30,019	8.0	Grain
Madoc	112	3.1	10,897	2.8	Grain
Flaxville	125	3.5	12,445	3.2	Grain
Redstone	64	1.8	6,262	2.3	Grain
Plentywood	882	24.7	88,200	22.6	Grain
Antelope	239	6.7	23,600	6.0	Grain
Reserve	209	5.8	20,900	5.4	Grain
Medicine Lake	236	6.6	23,600	6.0	Grain
Homestead	96	2.7	9,600	2.5	Grain
Froid	295	8.3	29,500	10.2	Grain
		Terminating			
Richland	13	0.4	1,300	0.3	Dry Fert.
Scobey	17	0.5	1,700	0.4	Dry Fert.
Redstone	2	0.1	28	0.7	Machinery
Plentywood	11	0.3	1,100	0.3	Dry Fert.
Plentywood	1	0.0	10	0.0	Machinery
Reserve	50	1.4	5,000	1.3	Dry Fert.
TOTAL	3,574	100.0	353,925	100.0	

1983 Statistical Summary

Length: 146.6 Miles
Carloads Per Week: 68.7
Carloads Per Mile: 24.4
Revenue: $12,891,300

SOURCE: Montana Department of Commerce

TABLE 5-1.2
RAILROAD USERS
Bainville to Opheim

NAME	STATION	SIDING(1)	COMMODITY
Farmers Union GTA	Opheim	P	Farm Products
Glentana Elevator Co.	Glentana	P	Farm Products
Farmers Union Elevator	Richland	P	Farm Products
Richland Farm Supply	Richland	P	Chemicals
Farmers Union GTA	Peerless	P	Farm Products
Four Buttes Farmers Elevator	Four Buttes	P	Farm Products
Farmers Grain Terminal of Daniels County	Scobey	P	Farm Products
Nash Bros. Inc. Feed & Grain	Scobey	P	Farm Products
Rasmus Nelson, Inc.	Scobey	P	Machinery
Farmers Union Carriers	Scobey	P	Chemicals
Noland Implement	Scobey	P	Machinery
Daniels County Farmers Elevator	Madoc	P	Farm Products
Harvest States	Flaxville	P	Farm Products
Redstone Grain Co.	Redstone	P	Farm Products
Nash Bros. Inc.	Redstone	P	Machinery
Montana Merchandising	Plentywood	P	Farm Products
Farmers Union Trading Co.	Plentywood	P	Farm Products
Peavey	Plentywood	P	Farm Products
Farmers Union Oil	Plentywood	P	Chemicals
Plentywood Power Equipment Co.	Plentywood	T	Machinery
Antelope Grain Co.	Antelope	P	Farm Products
Farmers Elevator Co.	Reserve	P	Farm Products
Con Agra	Reserve	P	Chemicals
Sheridan Grain Co.	Reserve	P	Farm Products
Harvest States	Medicine Lake	P	Farm Products
Farmers Elevator	Homestead	P	Farm Products

Farmers Elevator Co.	Froid	P	Farm Products
Harvest States	Froid	P	Farm Products
Farmers Union Oil	Froid	T	Chemicals

(1) P - Private Or Leased Siding On Premises

T - Team Track

SOURCE: Montana Department of Commerce

TABLE 5-1.3(a)
ESTIMATED REVENUES AND COSTS
Bainville to Opheim

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On-Branch	$12,891,300
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$ 1,858,444
a. Maintenance of Way and Structures (Normalized)	880,800
b. Transportation	490,367
c. Maintenance of Equipment	487,277
3. Off-Branch Costs	3,505,569
4. Total Avoidable Costs (Line 2 + Line 3)	$ 5,364,013
5. Avoidable Loss from Operations (Line 1 - Line 4)	$(7,527,287)(1)
6. Net Liquidation (Line 6a + Line 6b)	$ 4,886,896
a. Materials	4,178,192
b. Land	708,704
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	1,055,569
9. Total Avoidable Loss (Line 5 + Line 8)	$(6,471,718)(1)

(1) Parentheses Indicates Gain

SOURCE: Montana Department of Commerce

TABLE 5-1.3(b)
REVENUES AND COSTS
Bainville to Opheim

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On-Branch	$10,440,025
AVOIDABLE COSTS	
2. On-Branch Costs	$ 1,502,641
3. Off-Branch Costs	5,766,000
4. Total Avoidable Costs (Line 2 + Line 3)	$ 7,268,641
5. Avoidable Loss from Operations (Line 1 - Line 4)	$(3,171,384)(1)
6. Net Liquidation	$ 2,213,535
7. Rate of Return	18.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	411,717
9. Total Avoidable Loss (Line 5 + Line 8)	$(2,759,667)(1)

(1) Parentheses Indicates Gain

SOURCE: Burlington Northern Railroad

TABLE 5-1.4

ESTIMATED REVENUES AND COSTS

Plentywood to Opheim(1)

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On-Branch	$5,790,221
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$ 999,817
a. Maintenance of Way and Structures (Normalized)	514,800
b. Transportation	254,107
c. Maintenance of Equipment	230,910
3. Off-Branch Costs	$1,907,307
4. Total Avoidable Costs (line 2 + Line 3)	$2,907,124
5. Avoidable Loss from Operations (Line 1 - Line 4)	$(2,883,097)(2)
6. Net Liquidation (Line 6a + Line 6b)	$1,237,633
a. Materials	972,764
b. Land	264,869
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	$ 267,328
9. Total Avoidable Loss (Line 5 + Line 8)	$(2,615,769)(2)

(1) This Analysis Does Not Include Stations At Plentywood.
(2) Parenthesis Indicates Gain.

SOURCE: Montana Department of Commerce

$2.6 million. The estimated revenue and cost of service is presented in Table 5-1.4.

Scobey to Opheim - The BNRR received about $3.7 million on this portion of the line. On-branch costs (including opportunity costs) are $0.6 million, and off-branch costs are $1.3 million, resulting in a profit of $1.7 million. The estimated revenue and cost of service is shown in Table 5-1.5.

Highways

Figure 1 shows the location and surface types of the principal highways serving the area. FAS-248 parallels the branchline from Opheim to Scobey and FAP-22 parallels the line from Scobey to Froid. FAP-31 and FAP-32 provide transportation routes from Opheim and Scobey to Glasgow and Wolf Point, respectively. Distances from stations on the line to alternate rail stations are shown in Table 5-1.6.

Rail Inventory and Condition

Rail inventory and condition is described for Bainville to Scobey and Scobey to Opheim in Tables 5-1.7 and 5-1.8, respectively.

Rehabilitation Costs

Bainville to Scobey - Rehabilitation of the Bainville to Plentywood section is not needed, but the Plentywood to Scobey section is in need of $4.7 million in order to stabilize the line condition and to allow fully loaded hoppers for the long term. Such equipment is allowed now, but due to the lightweight rail, a lower weight limit eventually will have to be imposed. Rehabilitation costs are shown in Table 5-1.9.

Scobey to Opheim - The rehabilitation estimates for this

TABLE 5-1.5

ESTIMATED REVENUES AND COSTS

Scobey to Opheim(1)

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On-Branch	$3,679,670
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$ 517,655
a. Maintenance of Way & Structures (Normalized)	280,800
b. Transportation	124,073
c. Maintenance of Equipment	112,782
3. Off-Branch Costs	337,520
4. Total Avoidable Costs (Line 2 + Line 3)	$1,855,175
5. Avoidable Loss from Operations (Line 1 - Line 4)	$(1,824,495) (2)
6. Net Liquidation (Line 6a + Line 6b)	$ 563,184
a. Materials	460,480
b. Land	102,704
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	121,647
9. Total Avoidable Loss (Line 5 + Line 8)	$(1,702,848) (2)

(1) This Analysis Does Not Include Stations At Scobey.
(2) Parenthesis Indicates Gain.
SOURCE: Montana Department of Commerce

TABLE 5-1.6

DISTANCE TO SELECTED RAILROAD STATIONS

Bainville to Opheim

TOWN	ALTERNATIVE RAIL STATION	RAILROAD	ROAD DISTANCE
Opheim	Glasgow	BN	51
Glentana	Glasgow	BN	58
Richland	Glasgow	BN	67
Peerless	Glasgow	BN	79
	Wolf Point	BN	75
Four Buttes	Wolf Point	BN	65
Scobey	Wolf Point	BN	55
	Whitetail	SOO	18
Madoc	Wolf Point	BN	61
	Whitetail	SOO	13
Flaxville	Wolf Point	BN	66
	Whitetail	SOO	7
Redstone	Wolf Point	BN	78
	Whitetail	SOO	19
	Outlook	SOO	17
	Culbertson	BN	65
Plentywood	Culbertson	BN	47
	Raymond	SOO	7
	Westby	SOO	26
Antelope	Culbertson	BN	41
	Brockton	BN	59
Reserve	Culbertson	BN	33
	Brockton	BN	53
Froid	Culbertson	BN	14
	Brockton	BN	34

SOURCE: Montana Department of Commerce

TABLE 5-1.7
LINE FACILITIES CONDITION
Bainville to Scobey

Mileposts	- 0.0 - 100.0
Rail	- 45.3 miles of 77.5-lb rail and 54.7 miles of 90-lb rail, generally in good condition; 77.5-lb rail is bent where track needs surfacing due to poor subgrade at scattered locations; some moon breaks in rail bases noted on light rail.
Ties	- Treated mixed hardwoods and softwoods, generally in good condition between milepost 0.0 and milepost 54.7; between milepost 54.7 and milepost 100 will average 20-25% rotten broken.
Tie Plates and Rail Anchors	- Fully plated with single shoulder tie plates; varying number of anchors; some areas insufficient anchors are allowing rail to run and are damaging joint ties.
Ballast	- Gravel and crushed rock; west of milepost 54.7 mostly pit run gravel and dirt.
Bridges	- Sixty-two (62) bridges; those bridges observed were in generally good condition.
Road Crossings	- Forty-four (44); ten (10) paved, thirty-four (34) unpaved.
Roadbed/ Ditching	- Roadbed low at several locations, scattered locations of poor subgrade.

Vegetation	-	Track generally clear of vegetation.
Timetable		
Speeds	-	35 mph between milepost 0.0 and 54.7 25 mph between milepost 54.7 and 100.0
Weight		
Restrictions	-	263,000 lb gross weight.
Net		
Liquidation	-	$3,717,712 (track material), $606,000 (land)

SOURCE: Montana Department of Commerce

TABLE 5-1.8
LINE FACILITIES CONDITION
Scobey to Opheim

Mileposts	- 100.0 - 148.0
Rail	- 18.8 miles of 75-lb rail, 19.5 miles of 77.5-lb rail, 0.4 miles of 90-lb rail, 5.2 miles of 100-lb rail, 3.0 miles of 110-lb rail, 1.1 miles of 112-lb rail; some of the 77.5-lb curve worn and has numerous base breaks; heavier rail generally with good surface and line, however, with head wear; joints are 24-in, 4-hole.
Ties	- Treated mixed hardwoods and softwoods, generally in poor condition in lighter weight rail segments.
Tie Plates and Rail Anchors	- Fully plated, single shoulder tie plates with double shoulder tie plates with 110-lb and 112-lb rail; some of the lighter plates are wrapping around the base of the rail; varying number of rail anchors throughout line, generally adequate on heavier rail sections and inadequate on lighter rail; some evidence of rail running and skewing ties.
Ballast	- Pit run gravel that has become fouled at many locations.
Bridges	- Thirty-three (33) bridges, those observed were in good condition.
Roadbed/ Ditching	- Scattered locations of poor subgrade and some narrow roadbed; side drainage generally adequate.

Vegetation	- Track generally clean with a few locations of light grass and weed growth.
Timetable	
Speed	- 25 mph
Weight	
Restrictions	- 263,000 lb gross weight
Net	
Liquidation	- $460,480 (track material), $102,704 (land)

SOURCE: Montana Department of Commerce

TABLE 5-1.9

REHABILITATION COST ESTIMATE

Bainville to Scobey*

Rail, 100-lb Relay (176 tons/mile x 44.6 miles) @ $300	$2,354,880
Joints, 100-lb S.H. (320/mile x 44.6 miles) @ $9.32	133,015
Bolts, Locks and Nuts, New (1,280/mile x 44.6 miles) @ $2	114,176
Tie Plates, S.H. (6,000/mile x 44.6 miles) @ $2.75	735,900
Spikes, New (1,200/mile x 44.6 miles) @ $ .36	192,672
Rail Anchors, 100-lb, New (3,240/mile x 44.6 miles) @ $1.15	166,180
Crossties, New (300/mile x 44.6 miles) @ $18	240,840
Ballast (900 cu yd/mile x 44.6 miles) @ $3.60	144,504
Unload Material, 44.6 miles @ $2,800	124,880
Lay Rail, 44.6 miles @ $15,000	669,000
Timber and Surface, 44.6 miles @ $6,000	267,600
Work Crossings, 19 @ $2,000	38,000
Subtotal	$5,181,647
Less Value of Material Released	470,976
Total Rehabilitation Cost	$4,710,671

* Rehabilitation figures are for Scobey to Plentywood.

SOURCE: Montana Department of Commerce

TABLE 5-1.10

REHABILITATION COST ESTIMATE

Scobey to Opheim

Ditching and Roadbed Repair, 5 miles @ $1,200	$ 6,000
Rail, 100-lb Relay (176 tons/mile x 38.7 miles) @ $300	2,043,360
Joints, 100-lb S.H. (320/mile x 38.7 miles) @ $9.32	115,419
Bolts, Locks and Nuts, New (1,280/mile x 38.7 miles) @ $2	99,072
Tie Plates, S.H. (6,000/mile x 38.7 miles) @ $2.75	638,550
Spikes, New (12,000/mile x 38.7 miles) @ $ .36	167,184
Rail Anchors, New (3,240/mile x 38.7 miles) @ $1.15	144,196
Crossties, New (800/mile x 38.7 miles) @ $18	557,280
Ballast (900 cu yd/mile x 38.7 miles) @ $3.60	125,388
Turnouts, #9, 100-lb S.H., 14 @ $10,000	140,000
Unload Material, 38.7 miles @ $2,800	108,360
Lay Rail, 38.7 miles @ $15,000	580,500
Timber and Surface, 38.7 miles @ $9,600	371,520
Smooth and Line, 9.3 miles @ $1,500	13,950
Install Turnouts, 14 @ $3,000	42,000
Work Road Crossings, 22 @ $2,000	44,000
Subtotal	$5,196,779
Less Value of Material Released	408,672
Total Rehabilitation Cost	$4,788,107

SOURCE: Montana Department of Commerce

section are also $4.7 million, and includes the cost of laying heavier rail for the reasons discussed above. Rehabilitation costs are shown in Table 5-1.10.

Effects of Abandonment

Scobey to Opheim

Railroad - This section of the line is profitable for the railroad, producing a $1.7 million profit in 1983. However, because most of the grain now shipped on the railroad would most likely be trucked to rail stations in Glasgow and Scobey, the railroad could avoid the on-branch costs of $639,000 while losing only a small portion of the existing traffic.

Rail Users - Abandonment of this section would have a considerable impact on rail users. Grain elevators in the area would either close down, ship by truck over long distances or merge with elevators on the mainline. According to the shipper surveys, several operators speculated they would go out of business. The estimated truck costs of lost rail service are $766,000 based on 1983 traffic.

Highways - Table 5-1.11 lists the expected increase in truck traffic on area highways that would result from branchline abandonment. Increases of average daily truck traffic over existing levels range from 10.9 percent to 22.0 percent. An annual estimated highway impact cost of $2.2 million would result from increased truck traffic.

Plentywood to Opheim

Railroad - This section of the line is profitable for the railroad, producing a $2.6 million profit in 1983. Abandoning this section of the branchline would save the BNRR $1.3

TABLE 5-1.11

AREA HIGHWAY IMPACT ESTIMATES

Scobey to Opheim

HIGHWAY	SECTION	MILEAGE	AVERAGE DAILY TRUCK TRAFFIC		
			EXISTING	INCREASE	% INCREASE
FAS-248	Opheim-Glentana	7	39	6.1	15.6
FAS-248	Glentana-Richland	9	39	4.9	12.5
FAS-248	Peerless-Four Buttes	10	39	6.3	16.1
FAS-248	Four Buttes-Scobey	7	39	8.6	22.0
FAP-31	Opheim-Jct/FAP-1	49	84	9.2	10.9

Total Estimated Annual Highway Impact Cost: $2,240,063

SOURCE: Montana Department of Commerce
Montana Department of Highways

million in on-branch costs, but unlike the Scobey to Opheim section of the line, abandonment of the Plentywood to Scobey section would significantly affect the BNRR's traffic levels. Stations on the Soo Line seven or eight miles to the north would provide competition, and considerable amounts of grain would be diverted. Long-haul trucking would be expected to further reduce the BNRR's traffic levels. As a result, abandonment of the entire line from Plentywood to Opheim is less likely.

Rail Users - Without this portion of the branchline, shippers in the area would most likely truck grain to alternate rail stations on the Soo Line and to BNRR stations in Plentywood, Wolf Point, and Glasgow. The estimated truck costs of lost service are $1.7 million based on 1983 traffic.

Highways - Table 5-1.12 lists the expected increase in truck traffic on area highways that would result from branchline abandonment. Increases of average daily truck traffic over existing levels range from 3.2 percent to 17.9 percent. An annual estimated highway repair cost of $6.4 million would result from increased truck traffic.

Alternatives Evaluated

Tables 5-1.13 and 5-1.14 summarize the analysis of rehabilitation and acquisition/rehabilitation projects.

Rehabilitation, Scobey to Opheim - The present value of the benefits of this project is $23.6 million, and the present value of costs is $9.5 million. The net present value is $14.0 million, and the benefit/cost ratio is 2.47. A major portion of the high benefits of this project is the highway impact estimate.

Acquisition/Rehabilitation, Scobey to Opheim - The present

TABLE 5-1.12

AREA HIGHWAY IMPACT ESTIMATES

Plentywood to Opheim

HIGHWAY	SECTION	MILEAGE	AVERAGE DAILY TRUCK TRAFFIC		
			EXISTING	INCREASE	% INCREASE
FAS-248	Opheim-Glentana	7	39	6.1	15.6
FAS-248	Glentana-Richland	9	39	4.9	12.5
FAS-248	Peerless-Four Buttes	10	39	5.2	13.3
FAS-248	Four Buttes-Scobey	7	39	7.0	17.9
FAP-31	Opheim-Jct/FAP-1	49	84	9.2	10.9
FAP-32	Scobey-Jct/FAP-1	48	67	11.1	16.5
FAP-22	Scobey-Flaxville	11	71	8.1	11.4
FAP-22	Flaxville-Redstone	12	71	2.3	3.2
FAP-22	Redstone-Jct/FAS-374	10	71	3.6	5.0
FAP-22	Jct/FAS-374-Plentywood	11	71	3.4	4.7

Total Estimated Annual Highway Impact Cost: $ 6,452,168

SOURCE: Montana Department of Commerce
Montana Department of Highways

TABLE 5-1.13
DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS
Bainville to Opheim

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
	Scobey to Opheim, Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$- 639,304
Truck/User	Annual Line Haul and Handling Cost	766,578
Other	Annual Highway Impact Cost	2,240,000
	Net Salvage of Rehabilitation Materials	1,785,653
	Scobey to Opheim, Acquisition/Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$- 639,304
Truck/User	Annual Line Haul and Handling Cost	766,578
Other	Acquisition Cost (Land and Track Materials)	- 563,184
	Annual Highway Impact Cost	2,240,000
	Net Salvage of Rehabilitation Materials	1,785,653
	Liquidation Benefits	563,184
	Plentywood to Opheim, Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$-1,267,146
Truck/User	Annual Line Haul and Handling Cost	1,701,356
Other	Annual Highway Impact Cost	6,452,168
	Net Salvage of Rehabilitation Materials	3,637,889
	Plentywood to Opheim, Acquisition/Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$-1,267,146
Truck/User	Annual Line Haul and Handling Cost	1,701,356
Other	Acquisition Cost (Land and Track Materials)	-1,237,633
	Annual Highway Impact Cost	6,452,168
	Net Salvage of Rehabilitation Materials	3,637,889

NOTE: Negative Value Indicates Disbenefit To Affected Party.
SOURCE: Montana Department of Commerce

TABLE 5-1.14

BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS

Bainville to Opheim

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE(1) BENEFIT	COST	NET	BENEFIT /COST RATIO
			(000's)		
Rehabilitation, Scobey-Opheim	$ 4,788.10	$23,610.00	$ 9,541.50	$14,068.50	2.47
Acquisition/ Rehabilitation, Scobey-Opheim	5,351.30	24,005.70	10,104.70	13,901.00	2.38
Rehabilitation, Plentywood-Opheim	9,498.70	63,180.20	18,920.40	44,259.80	3.34
Acquisition/ Rehabilitation, Plentywood-Opheim	10,376.40	64,049.80	22,140.70	43,891.70	3.18

(1) Discount Rate - 4 Percent
Project Life - 10 Years

SOURCE: Montana Department of Commerce

value of the benefits of this project is $24.0 million, and the present value of costs is $10.1 million. The net present value is $13.9 million, and the benefit cost ratio is 2.38. The benefit/cost ratio of this project is lower than the project discussed above due to acquisition costs.

Rehabilitation, Plentywood to Opheim - The present value of the benefits of this project is $63.1 million, and the present value of costs is $18.9 million. The net present value is $44.2 million, and the benefit/cost ratio is 3.34. A major portion of this high benefits of this project is the highway impact estimate.

Acquisition/Rehabilitation, Plentywood to Opheim - The present value of the benefits of this project is $64.0 million, and the present value of costs is $22.1 million. The net present value is $43.9 million, and the benefit/cost ratio is 3.18. The benefit/cost ratio of this project is lower than the project discussed above due to acquisition costs.

Conclusions

Both the costs of potential rehabilitation projects and especially the impacts of abandonment of this line are relatively high. This line serves a large and productive grain producing area, and viable alternatives to rail service are few. It is recommended that the line be considered for rehabilitation project for at least a portion of the line if such a project would help to insure continuing service. Highway impacts associated with the abandonment of this line are high. Acquisition and/or rehabilitation of an economically self-sustaining portion of this line may be desirable to avoid the impact on area highways.

BRAZIL CREEK SPUR
Burlington Northern Railroad

This 18.7 mile line was constructed to serve a bentonite operation at Brazil Creek about 13 years ago. The line runs from Brazil Creek to the BNRR mainline near Glasgow. The line lies entirely in Valley County and is illustrated in Figure 5-2.

The issues surrounding this line are the following:

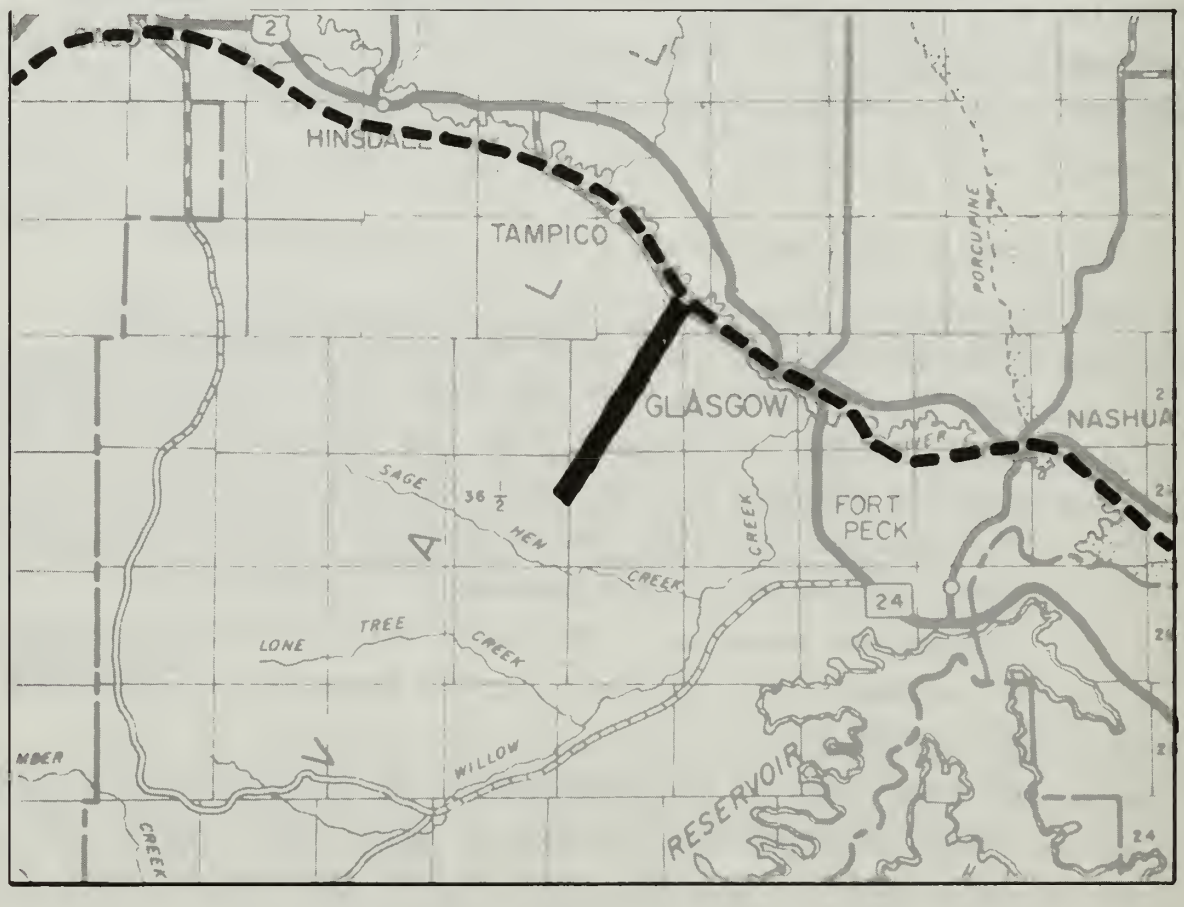
- The line was removed from Category I status and placed in Category V on the June 1984 System Diagram Map. It can be assumed that the railroad intends to provide service for at least the next few years.
- The traffic for 1983 was up markedly over traffic for 1980, but most of this movement consisted of a stockpiled material. There is little mining activity at present, and only one or two persons are employed full time.
- In the event of an abandonment it is not known if the bentonite would be trucked to final destination or transloaded onto rail cars at the BNRR mainline.
- The line is in very good condition.
- Prognostications for future production are unknown.

Rail Use

As shown in Table 5-1.1, the line serves one shipper at one station, Brazil Creek. The only commodity shipped in 1983 was 278 carloads of bentonite with 88 carloads shipped in 1980, and 953 carloads in 1979, indicating that volumes on the line fluctuate a great deal. Rail use statistics are shown in Table 5-2.2.

BRAZIL CREEK SPUR

RAILROAD : BURLINGTON NORTHERN
LENGTH : 18.7 MILES
COUNTIES : VALLEY
STATUS : LIGHT DENSITY



0 10 20 30

MILES

LEGEND

SUBJECT LINE

ALL OTHER LINES

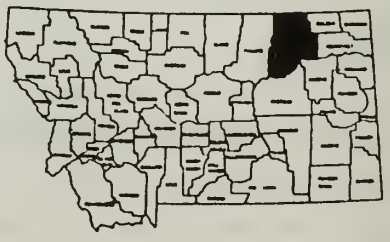


FIGURE 5-2

TABLE 5-2.1
RAILROAD USERS
Brazil Creek Spur

NAME	STATION	SIDING(1)	COMMODITY
Federal Bentonite Co.	Brazil Creek	P	Nonmetallic Minerals

(1) P - Private Or Leased Siding On Premises.
T - Team Track

SOURCE: Montana Department of Commerce

TABLE 5-2.2

RAILROAD USE STATISTICS - 1983

Brazil Creek Spur

STATION	CARLOADS NUMBER	CARLOADS PERCENT	TONS NUMBER	TONS PERCENT	COMMOCITY
		Originating			
Brazil Creek	278	100	25,000	100	Nonmetallic Minerals

1983 Statistical Summary

Length: 18.7 Miles
Carloads Per Week: 5.34
Carloads Per Mile: 14.86
Revenue: $558,000

Traffic Volume History

1976	0
1977	0
1978	25
1979	953
1980	88
1983	278

SOURCE: Montana Department of Commerce
Burlington Northern Railroad

Rail Service

It is estimated that the line is served once every two weeks at a speed of 25 mph. Revenues and costs associated with the line based on 1983 traffic are detailed in Table 5-2.3. The line produced revenues of $558,000. This amount was exceeded by the total on and off-branch costs, resulting in a loss of $16,097. The largest component of the on-branch costs was the opportunity cost at $278,279.

Highways

There are no public roads paralleling the line. Principal highways in the area include a primary highway and a secondary highway as shown in Figure 5-2. Distances to alternate rail stations are shown in Table 5-2.4.

TABLE 5-2.4
DISTANCE TO SELECTED RAILROAD STATIONS
Brazil Creek Spur

TOWN	ALTERNATIVE RAIL STATION	RAILROAD	ROAD DISTANCE
Brazil Creek	Glasgow	BN	24
	Tampico	BN	24

SOURCE: Montana Department of Commerce

Rail Inventory and Condition

As detailed in Table 5-2.5, the Brazil Creek Spur is in good condition and is laid with heavy rail. The line is comparatively new and has had little traffic over it. There is no rehabilitation necessary for the Brazil Creek Spur.

TABLE 5-2.3

ESTIMATED REVENUES AND COSTS

Brazil Creek Spur

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On-Branch	$ 558,000
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$ 162,592
a. Maintenance of Way and Structures (Normalized)	112,200
b. Transportation	16,770
c. Maintenance of Equipment	33,622
3. Off-Branch Costs	133,226
4. Total Avoidable Costs (Line 2 + Line 3)	$ 295,818
5. Avoidable Loss from Operations (Line 1 - Line 4)	$ (262,182)(1)
6. Net Liquidation (Line 6a + Line 6b)	$1,288,331
a. Materials	1,255,331
b. Land	33,000
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	278,279
9. Total Avoidable Loss (Line 5 + Line 8)	$ 16,097

(1) Parenthesis Indicates Gain

SOURCE: Montana Department of Commerce

TABLE 5-2.5
LINE FACILITIES CONDITION
Brazil Creek Spur

Mileposts	- 0.0 - 18.7
Rail	- 18.7 miles of 112-lb rail, generally in good condition; 24-in, 4-hole joints; rail laid with opposing joints.
Ties	- Treated hardwoods in good condition.
Tie Plates and Rail Anchors	- Fully plated with double shoulder tie plates; fully anchored, 16 anchors per 39-ft rail.
Ballast	- Pit run gravel and some dirt.
Bridges	- Approximately three (3) bridges, those observed appeared in good condition.
Road Crossings	- Three (3) unpaved.
Roadbed/ Ditching	- Roadbed generally adequate, except some locations of narrow embankment with evidence of slight settlement; no drainage problems noted.
Vegetation	- Generally clean roadbed with scattered locations of light weeds and grass.
Timetable Speed	- Not stated.

Weight
Restrictions - 263,000 lb gross weight.

Net
Liquidation - $1,255,331 (track material), $33,000 (land)

SOURCE: Montana Department of Commerce

Effects of Abandonment

Railroad - This line operated at essentially a break-even basis in 1983. Demand for service on the line fluctuates and is difficult to predict. The line's abandonment would allow the railroad to use the line's assets, estimated at $1.28 million, in other parts of the system. However, the railroad apparently expects traffic levels to increase, as the line has been removed from Category I status.

Rail Users - Based on 1983 traffic, it would cost the Federal Bentonite Co. an estimated $63,550 to truck the bentonite to the mainline. A loading facility at the mainline could be built for $280,000. If the company were to truck the bentonite to its final destination, an annual cost of $1.3 million would result.

Highways - The only access to the mine is by an unimproved road. This road would have to be improved if bentonite trucks were to use it. This improvement (grading, drainage, graveling) is estimated to cost $1.7 million. If the company were to truck to final destination as the result of abandonment, an annual highway impact cost of $535,154 would result on FAP-1 between Glasgow and the North Dakota state line. Table 5-2.6 shows that the increase in average daily truck traffic would range between 0.8 and 1.1 percent.

Alternatives Evaluated

Tables 5-2.7 and 5-2.8 contain an evaluation of three alternatives which were considered for this line.

Substitute Service - This alternative assumes that the bentonite would be trucked to the mainline and loaded onto rail cars instead of moving by rail for the entire distance. The benefit/cost ratio of this alternative is 1.58. The major

TABLE 5-2.6
AREA HIGHWAY IMPACT ESTIMATES (1)
Brazil Creek Spur

HIGHWAY	SECTION	MILEAGE	AVERAGE DAILY TRUCK TRAFFIC EXISTING	INCREASE	%INCREASE
FAP-1	Glasgow-Wolf Point	49	262	2.28	0.9
FAP-1	Wolf Point-Culbertson	54	289	2.28	0.8
FAP-1	Culbertson-North Dakota State Line	23	202	2.28	1.1

Total Estimated Annual Highway Impact Cost: $535,154

(1) This estimate assumes that the mine would continue to operate without rail service and that bentonite would be trucked to the final destination in Minnesota. These assumptions are based on speculation.

SOURCE: Montana Department of Highways
Montana Department of Commerce

TABLE 5-2.7

DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS

Brazil Creek Spur

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
	Substitute Service Alternative	
Railroad	Annual Cost Savings On-Branch	$ 440,872
Truck/User	Annual Line Haul and Handling Cost	-63,550
Other	Cost of Loading Facility	-280,000
	Road Construction Cost	-1,775,000
	Annual Road Maintenance Cost	-16,000
	Liquidation Benefits	1,288,331
	Truck To Final Destination Alternative	
Railroad	Annual Cost Savings On-Branch	$ 440,872
	Annual Cost Savings Off-Branch	133,226
Truck/User	Annual Line Haul Cost	-1,350,000
Other	Road Construction Cost	-1,775,000
	Annual Road Maintenance Cost	-16,000
	Annual Highway Impact Cost	-535,154
	Liquidation Benefits	1,288,331
	Acquisition Alternative	
Railroad/ Operator	Annual Cost Savings On-Branch	$ -440,872
Truck/User	Annual Line Haul and Handling Cost	63,550
Other	Acquisition Cost (Land and Materials)	-1,288,331
	Cost of Loading Facility	280,000
	Road Construction Cost	1,775,000
	Annual Road Maintenance Cost	16,000
	Liquidation Benefits	1,288,331

NOTE: Negative Value Indicates Disbenefit To The Affected Party.

SOURCE: Montana Department of Commerce

TABLE 5-2.8

BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS

Brazil Creek Spur

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE(1) BENEFIT	COST (000's)	NET	BENEFIT /COST RATIO
Substitute Service	$2,055.0	$4,183.2	$ 2,770.9	$ 1,536.7	1.58
Truck To Final Destination	$2,055.0	$5,173.8	$15,910.7	$-10,736.9	0.33
Acquisition	$1,288.3	$3,551.6	$ 4,566.4	$ -1,014.7	0.78

(1) Discount Rate - 4 Percent
Project Life - 10 Years

SOURCE: Montana Department of Commerce

benefit associated with this option is the annual on-branch savings of $440,872 to the railroad.

Truck to Final Destination - This alternative assumes that the bentonite would be trucked from Brazil Creek all the way to the final destination instead of moving by rail the entire distance. The annual trucking cost associated with this option is $1.3 million. This option also includes a $1.7 million cost to upgrade the road from the mine to the mainline and annual highway impact costs of $535,154. The benefit/cost ratio of this option is 0.33, primarily due to the high trucking costs. It seems unlikely that the bentonite would be trucked to the final destination in Minnesota.

Acquisition - This alternative assumes that the bentonite would be moved on the branchline to the mainline and then would be hauled by rail to the final destination instead of being trucked from Brazil Creek to the mainline.

The cost of acquisition is estimated at $1.28 million, the value of the line. The net present value of this option is estimated at $ -1.0 million and the benefit/cost ratio is 0.78. A primary cost associated with the project is the on-branch cost for operating on the line.

Conclusion

Based on 1983 traffic levels, it appears that the substitute service option is "good" in an economic sense because the benefit/cost ratio is greater than one. However, it should be noted that traffic levels from the line are unpredictable. If traffic levels increase, the net profits to the BNRR would increase at a much faster rate than the marginal on and off-branch operating costs. A small increase in traffic would make the line profitable, marking the substitute service option not quite so attractive from an economic analysis point of view.

Highway impacts associated with long-haul trucking are significant, but it is unlikely that these impacts would occur because the cost of trucking would seem to be prohibitively expensive. At 1983 traffic levels, the economic costs of trucking to final destination are much greater than the economic costs of using rail, and the trucking cost is even greater at 1979 traffic levels.

Assuming that the bentonite would not be trucked to the final destination, this analysis can be reduced to the substitute service and the acquisition options. The data indicates that substitute service is feasible at low traffic levels and rail service is feasible at high traffic levels.

Whether traffic levels on this line will be low or high is open to speculation. The mine does provide some employment, but at present levels of operation, the economic impacts on the local economy resulting from its closure would be minimal. It is concluded that the shipper should negotiate with the BNRR or acquire the line if abandonment becomes a probability. If it can be shown that traffic levels would significantly increase for an extended period of time, state investment in the line may be a feasible option.

Butte, Anaconda & Pacific Railway

The Butte, Anaconda and Pacific Railway (BAP), located in Deer Lodge and Silver Bow Counties, is one of two shortline railroads operating in the state. The railroad owns approximately 115 miles of track, most of which is yard track to provide access to mines in Butte. Figure 5-3.1 identifies the location of the system and Figure 5-3.2 is the railroad's latest system diagram map, illustrating the entire system in detail. The entire system is listed in Category III.

The status and issues of this railroad are as follows:

- Category III - Abandonment application is before the ICC.
- Current line owner has made sale-donation offer to the state.
- Major rail customer was the Anaconda Company until Anaconda's operation was closed.
- Railroad has other customers which are projected to yield sufficient carloads to keep the line in operation.
- Most of the line is in good condition.

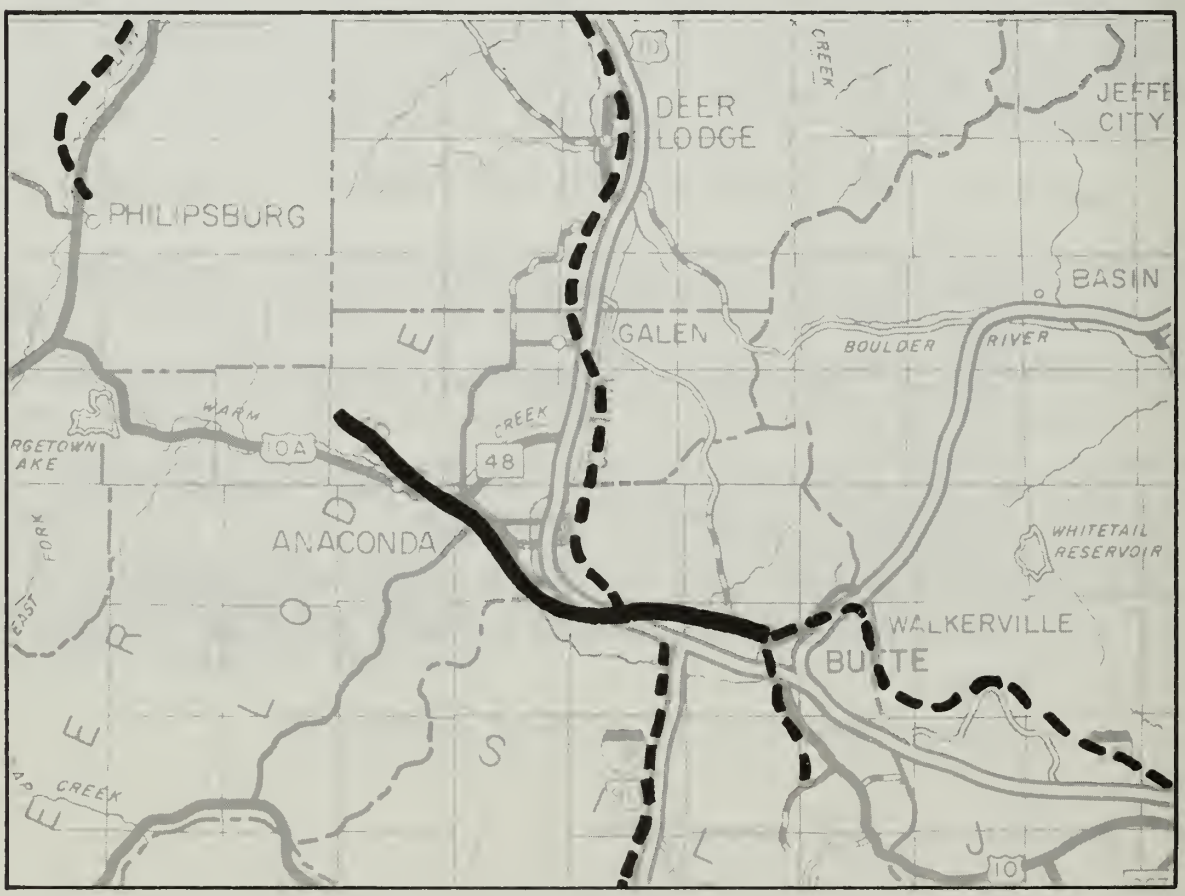
I. Analysis of 1983 Operations

Rail Use

Information from the BAP indicates that this railroad originated and terminated 1,407 carloads in 1983. Most of this traffic was copper concentrates from Butte to be interchanged with the BNRR and the UP. Other traffic included copper slag and scrap steel. Table 5-3.1 provides details. Fourteen customers were identified by the BAP as shown in Table 5-3.2.

BUTTE, ANACONDA AND PACIFIC

RAILROAD: BUTTE, ANACONDA & PACIFIC
LENGTH: 115 MILES
COUNTIES: SILVER BOW, DEER LODGE
STATUS: CATEGORY III - ABANDONMENT APPLICATION PENDING BEFORE THE ICC.



LEGEND

SUBJECT LINE

ALL OTHER LINES

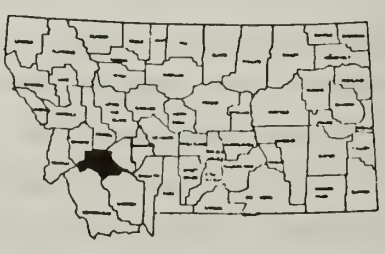


FIGURE 5-3.1

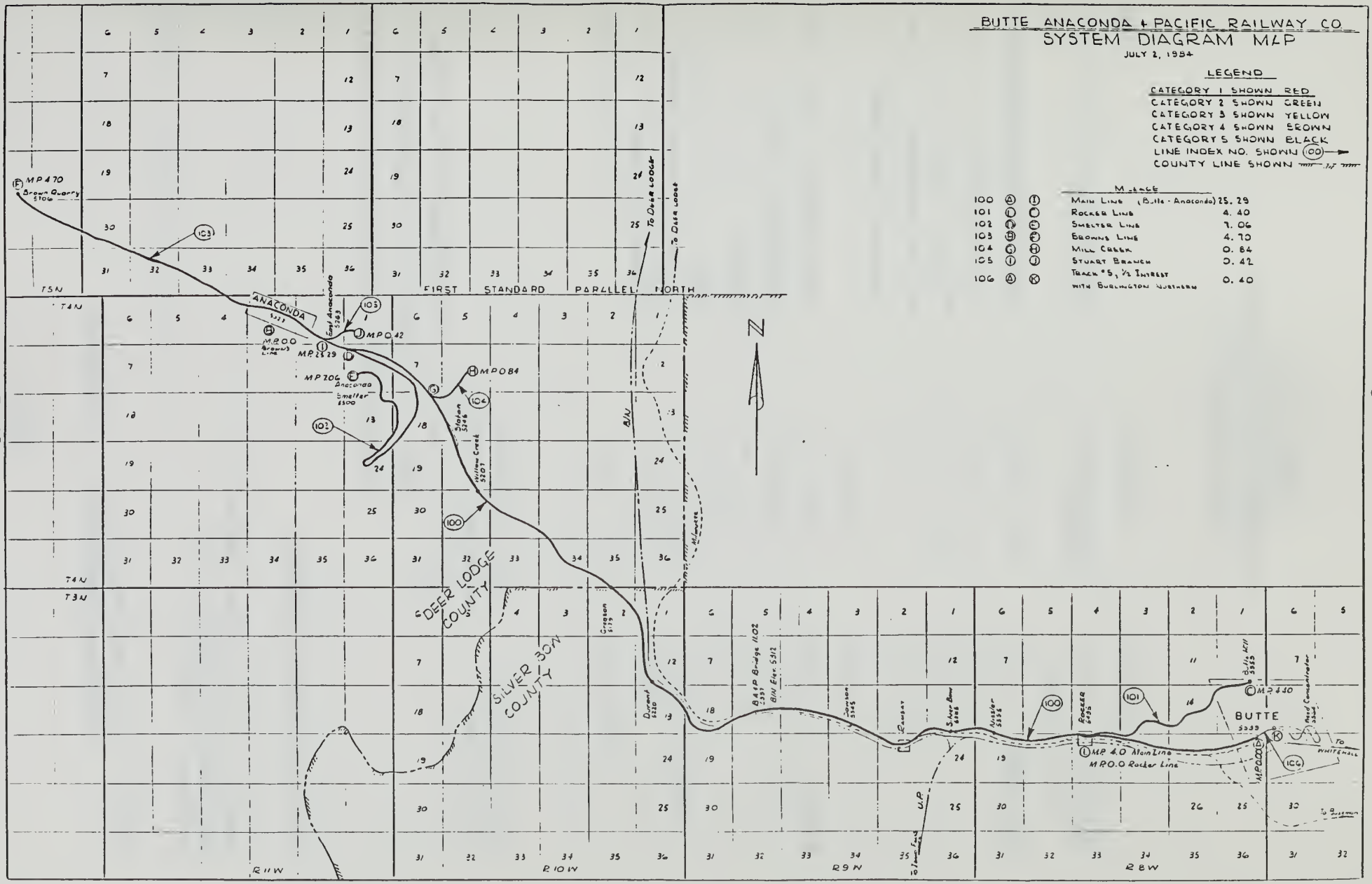


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Figure 5-5.2

TABLE 5-3.1
RAILROAD USE STATISTICS
BA&P Railway Co.

STATION	CARLOADS	COMMODITY
Anaconda	319	Copper Concentrates
	23	Scrap Steel
	183	Copper Slag
	6	Miscellaneous
	6	Company Material
Butte	3	Furniture
	3	Newsprint
	4	Paper
	10	Beer
	848	Copper Concentrates
	2	Miscellaneous

Total Traffic: 1,407 Carloads
Total Tons: Anaconda - 45,216
Butte - All cars in or outbound to or from Butte are handled as a reciprocal switch and no tonnages are available.

1983 Statistical Summary

Length: 25.29 Miles (Mainline)
Carloads Per Week: 27.0
Revenue: $705,023

SOURCE: BA&P Railway Co.
Montana Department of Commerce

TABLE 5-3.2
RAILROAD USERS
BA&P Railway Co.

NAME	STATION	COMMODITY
Anaconda Minerals Co.	Butte	Copper Concentrates
Thompson Distributing	Butte	Beer
Pacific Hide & Fur	Butte	Scrap
Evans Transfer	Butte	Paper
George Steele Co.	Butte	Furniture
Pioneer Coal	Butte	Coal
Luria Brothers Co.	Anaconda	Scrap
RDM Multi-Enterprises	Anaconda	Slag
U.S. Industrial Metals	Anaconda	Copper Residue
U.S. Industrial Minerals	Anaconda	Slag
L.M.B.E., Inc.	Anaconda	Slag
A.L.D.C.	Anaconda	Copper Residue
Lloyd Systad	Anaconda	Scrap
Weissman & Sons	Great Falls	Machinery

SOURCE: BA&P Railway Co.

Rail Service

This railroad originates and terminates traffic which is transferred to or from the Burlington Northern or the Union Pacific. The BAP provided service on the mainline 3.2 times per month. The speed on the mainline is 30 mph, with a 15 mph limitation on some curves, grades, and road crossings. As shown in Table 5-3.3, this railroad operated at a loss in 1983. According to the BAP, revenues were $705,023 and avoidable costs were $2,612,690, resulting in a loss of $1,907,667. Table 5-3.3 also provides revenue and cost figures for 1984. In that year the railroad operated at a loss of $1,775,066.

Highways

The BAP mainline is paralleled by Federal Aid Primary Highway 19 and Interstate 90 with traffic volumes varying from 1,872 to 8,400 vehicles per day. Truck traffic ranges from 5 to 17 percent of the total traffic. Area highways are illustrated in Figure 5-3.1.

Rail Inventory and Condition

Table 5-3.4 describes the condition of the lines in the BAP System. For reference purposes, sections indicated by line index numbers can be found on the System Diagram Map in Figure 5-3.2.

Rehabilitation Costs

Rehabilitation costs and annual deferred maintenance costs to comply with FRA standards are detailed in Table 5-3.4. The Mainline from Anaconda to Butte is in good condition and would require no rehabilitation for operations to continue. If used, the Butte Hill line, the Smelter line, and the Quarry line would require minor rehabilitation.

TABLE 5-3.3
REVENUES AND COSTS
BA&P Railway Co.

A.	REVENUES ATTRIBUTABLE		YEAR 1983
1.	Freight Originated and/or Terminated On-Branch		$ 341,910
2.	Bridge Traffic		-
3.	All Other Revenue & Income		363,113
4.	Total Revenues Attributable (Lines 1 through 3)		705,023
B.	AVOIDABLE COSTS		
	5.	On-Branch Costs (Lines 5a through 5j)	$2,612,690
		a. Maintenance of Way and Structures	463,057
		b. Maintenance of Equipment	718,590
		c. Transportation	500,755
		d. General Administrative	517,540
		e. Deadheading, Taxi and Hotel	-
		f. Overhead Movement	-
		g. Freight Car Costs	24,673
		h. Return on Investment - Locomotives	-
		i. Revenue Taxes	246,536
		j. Property Taxes	141,539
C.	6.	Off-Branch Costs	$ -
D.	7.	Total Avoidable Costs	$2,612,690
E.	8.	Net Gain or (Loss) from Operations	($1,907,667)

SOURCE: BA&P Railway Co.

TABLE 5-3.4

LINE FACILITIES CONDITION AND REHABILITATION COST ESTIMATES

BA&P Railway Co.

LINE INDEX 100 MAINLINE, Butte to Anaconda, 25.29 Miles

This line consists of a single track with passing sidings at Durant, Gregson and Station; it passes through a 10 track yard at Rocker. The line runs through moderately rolling terrain with a gradient generally descending from Butte toward Gregson at a ruling grade of 1.0%. It then ascends from Gregson toward Anaconda at a ruling grade of 0.3%. Several curves exist as the line passes through Durant Canyon with the most severe being 10 degrees. Maximum speeds are 30 mph.

The line is in good condition consisting of 100#, 115# and 119# rail and there are no operating restrictions. It is presently Class III track which could be upgraded to Class IV with very little work. No rehabilitation work is necessary at the present time. Track exceeds FRA minimum standards. All bridges and culverts are in good shape.

The annual deferred maintenance costs to comply with FRA Class III standards is estimated to be $30,000.

LINE INDEX 101 BUTTE HILL LINE, Rocker to Butte Hill, 4.40 Miles

This line consists of a single track with no passing sidings. The line ascends from Rocker to Butte Hill at a 2.5% ruling grade and skirts through Northwest Butte. Maximum speeds are 15 mph due to the fairly steep grade and many existing grade crossings.

Seventy percent of the line is in good condition with sound ties and 100# rail; this portion of track will meet FRA Class III standards. The remaining 30% of the line is fair 85#

track; this portion technically meets Class III standards; however, two crossings are asphalted and require flanging. Minor tie renewal, ditching, surfacing and tamping would be necessary to put track in good operating condition. As the line switchbacks on a sidehill it is exposed to washout areas which dictates the need for manpower to clean and repair ditches and culverts. An immediate expenditure of $10,000 is required for rehabilitation. Culverts and bridges are in fair condition. Tunnel is in good shape.

The annual deferred maintenance costs to maintain FRA Class III standards is estimated to be $20,000.

LINE INDEX 102 Smelter Line, East Anaconda To Smelter, 7.06 Miles

This line consists of a double track running from Anaconda to the Anaconda Smelter at an ascending ruling grade of 1.1%. Only the downhill track is useable at present, as the uphill track is straitrailed at the East Anaconda Yard Switch. The line runs through several cut areas and 180 degrees horseshoe curve exists. Speeds are restricted to 20 mph.

Ninety percent of the line is constructed of good 100# and 115# material and meets Class III standards. A major tie renewal was completed in 1979, but some tamping and surfacing is required to put track in good operating condition. Major deficiencies include replacement of tie plates in the light rail area and a need for additional ballast is required in spot locations. Several locations along the line are identified as potential washout areas. The track has not been used for approximately two years so it would be necessary to remove debris. The basic structure, including culverts, is in good shape.

An immediate expenditure of $7,000 is required for rehabilitation.

The annual deferred maintenance costs to maintain FRA Class III standards is estimated to be $32,000.

LINE INDEX 103 QUARRY LINE, Anaconda to Brown's Quarry, 4.70 Miles

This line consists of a single light rail track with no passing sidings. The line runs west from Anaconda at a constant ascending ruling grade of 1.3% to Brown's Quarry. The line runs parallel to Highway 10-A West and has only one slight curve.

The line technically meets FRA Class III standards; however, speed is restricted to 15 mph due to many rural grade crossings and light 75# and 85# rail. Ties are in fair shape and renewal requirements are estimated to be 50 ties per mile. If line is to be used in the future, all the 75# and 85# rail should be changed to provide a safe track system for 100 ton rail cars. Major deficiencies in addition to the light rail are cut tie plates, a need for additional ballast in strategic locations and vegetation control. Bridges and culverts are in fair shape and no immediate maintenance is required.

An immediate expenditure of $10,000 is required to rehabilitate track to meet minimum FRA standards.

The annual deferred maintenance costs to maintain FRA Class III standards is estimated to be $30,000 of which 50% would be directed toward grade crossings.

LINE INDEX 104 Millcreek Slime Spur, Mainline to Spur-end, 0.84 Miles

The line was used many years ago for slime haul from The Anaconda Company slum ponds to the Smelter. Presently it is a short spur line running from mainline (Index 100) to a dead end south of Highway 10-A at a maximum descending grade of 1.0%.

The line is in poor condition with light 75# and 85# rail in place. Deficiencies also include poor ties, poor ballast and broken tie plates. Trackage does not technically meet Class III standards. Rehabilitation work is not necessary because the line has not been used for several years and will not be used in the future because of its geographic location.

Average annual deferred maintenance over the past five years has been approximately $1,000 which was primarily directed toward public improvements, such as grade crossing, etc.

LINE INDEX 105 BRICK PLANT SPUR, Mainline to Spur-end, 0.42 Miles

This line, a former Montana Union Line, consists of a single track line running fairly level from HIghway 10-A to East Anaconda Yard at a maximum ascending grade of 1.0%. Entire track is in yard limit so speed is restricted to 20 mph.

The line consists of 85# material. Deficiencies include poor ties, no real ballast material and worn rail. Minor preventative maintenance has been practices for many years. Track will meet Class III standards.

The annual deferred maintenance costs to comply with FRA Class III standards is estimated to be $4,000.

SOURCE: BA&P Railway Co.

Effects of Abandonment

Railroad - The assets of this system could be used elsewhere in the parent company (Atlantic Richfield Co.) if the line were abandoned. Based on 1983 information, the system operated at a loss of $1.9 million, so abandonment would benefit the owning company.

Rail Users - Of the fourteen users identified by the BAP, only four shipped more than 33 carloads in 1983. The Anaconda Minerals Company was the main shipper, and its operations have been shut down. Rail service to Butte businesses is available via the BNRR at Butte and via the UPRR at Silver Bow, seven highway miles away. Anaconda businesses also have highway access to the BNRR and UPRR at Silver Bow, which is 20 miles away.

It should be noted however, that several businesses in the Anaconda area would be adversely affected by abandonment of the rail system. There are significant amounts of flue dust, copper concentrates, and slag to be shipped by several Anaconda businesses. As demonstrated in the benefit/cost analysis in Part II, at 1986 projected traffic levels it is more economical to place these bulk commodities on the rail system immediately rather than truck them to the nearest railhead.

Local Economy - Abandonment of this rail system would produce a definite negative impact on the area economy. The Butte - Anaconda area has suffered adverse economic impacts as the result of mine closures in Butte, and the loss of the shortline would dramatically decrease the potential to attract other businesses to the area. Abandonment would reduce the number of employees, payroll, and property tax payments to two counties. Table 5-3.5 lists payroll and property tax payments for the years 1983-1984 and projections for 1985-1986.

TABLE 5-3.5
ECONOMIC DATA
BA&P Railway Co.

	1983	1984	1985	1986
Number of Employees	84	54	6	10
Payroll	$1,352,747	$1,096,436	$108,000	$180,000
Property Tax Payments:				
Deer Lodge County	$ 94,639	$ 80,383	$ 70,498(1)	$ 48,957(1)
Silver Bow County	46,900	42,761	37,502(1)	26,043(1)

(1) Since it is probable that the state will own this property for five years, these tax figures are provided to indicate potential revenues available to counties in the future. It is anticipated that this property will be sold to the operator in five years.

SOURCE: BA&P Railway Co.
Rarus Railway Co.

II. Analysis of Proposed Operations

Efforts are under way to transfer operations of the BAP to a new owner, the Rarus Railway Company. Rarus has provided projections for operations in 1985 and 1986. Part II of this analysis is based on these projections.

Rail Use

As estimated 61,600 tons of traffic will be generated over an eight month period in 1985. Most of this tonnage will be comprised of copper slag and scrap steel. Projections indicate 450,000 tons will be moved in 1986. The majority of this tonnage will be flue dust. Details are provided in Table 5-3.6. As in previous years, cars destined for or coming from Butte will be handled as a reciprocal switch.

TABLE 5-3.6

PROJECTED RAILROAD USE STATISTICS

BA&P Railway Co.

1985 (1)

STATION	TONS	COMMODITY
Anaconda	27,200	Scrap
Anaconda	32,000	Slag
Anaconda	2,400	Residues and Miscellaneous
	61,600	

1986

STATION	TONS	COMMODITY
Anaconda	300,000	Flue Dust
Anaconda	100,000	Copper Concentrates
Anaconda	48,000	Slag
Anaconda	2,500	Scrap
	450,000	

(1) The 1985 Projections Are For An Eight Month Period.

SOURCE: Rarus Railway Co.

Rail Service

Proposed operations to continue rail service are shown in Table 5-3.7.

The estimated revenues and costs of service are displayed in Table 5-3.8. Over an eight months period in 1985, the railroad is expected to operate at a loss of $99,200. In 1986 the railroad is expected to operate at a profit of $81,900.

Rehabilitation Costs

Proposed operations would require the use of the 25.29 mile mainline between Anaconda and Butte. Rehabilitation of this line is not needed. Depending on customer demands, operations on the Smelter line (see Figure 5-3.2) may be necessary. An expenditure of $7,000 would be required to commence operations on the Smelter line.

Alternatives Evaluated

An effort is being made by the former management of the BAP to create a new railway company and operate on the system. Tables 5-3.10 and 5-3.11 list the results of a benefit/cost analysis of the acquisition option.

Acquisition and Shortline Operation - According to a potential settlement negotiated between the State of Montana, Rarus Railway Co. and ARCO (an operating company of the Atlantic Richfield Co.), all of the system except the land and track materials in the Ramsay Yard and six miles of mainline will be donated to the State of Montana. The state will purchase the Ramsay Yard and six miles of mainline for an agreed upon price of $178,874.28. The state will then lease the entire system to Rarus for rail operations. Table 5-3.9 describes the value of the land and trackage to be purchased. The project cost of

TABLE 5-3.7

PROPOSED OPERATIONS 1986

Rarus Railway Company

Rarus Railway expects to modify its operational format in 1985 and 1986.

Future operations are planned as follows:

Operations will generally be on a five day a week basis consisting of a single road switcher staffed with either a two man or three man crew. (Crew size to be determined by amount of work to be accomplished and the number of cars to be handled.)

Total employment on the Railroad would be six to eight employees contingent upon the volume of business.

Operations will be between Anaconda, Montana (Deer Lodge County) and Butte, Montana (Silver Bow County). Traffic will be interchanged with the Union Pacific Railway at Silver Bow, Montana and with the Burlington Northern at Butte and/or Silver Bow, Montana.

Rarus Railway Company will make a major effort in 1985 and 1986 to expand its market area through acquisition of additional rail lines, but limited to the geographic boundaries of Montana.

1986 will also see an expansion of related services provided by the parent corporation, Rarus, Inc., to rail construction, rail car repairs and a railroad consulting company.

SOURCE: Rarus Railway Company

TABLE 5-3.8
PROJECTED ESTIMATED REVENUES AND COSTS
Rarus Railway Company

			PROJECTIONS 1985	1986
A.		REVENUES ATTRIBUTABLE FOR		
	1.	Freight Originated and/or Terminated On-Branch	$317,500	$530,400
	2.	Bridge Traffic	-	-
	3.	All Other Revenue & Income	80,400	147,600
	4.	Total Revenues Attributable (Lines 1 through 3)	397,900	678,000
B.		AVOIDABLE COSTS FOR		
	5.	On-Branch Costs (Lines 5a through 5j)	$497,100	$596,100
		a. Maintenance of Way and Structures	70,200	93,700
		b. Maintenance of Equipment	97,300	126,800
		c. Transportation	89,600	123,900
		d. General Administrative	77,200	98,500
		e. Deadheading, Taxi and Hotel	-	-
		f. Overhead Movement	-	-
		g. Freight Car Costs	26,400	36,000
		h. Return on Investment - Locomotives	-	-
		i. Revenue Taxes	28,400	42,200
		j. Property Taxes, Lease/ Purchase	108,000	75,000
C.	6.	Off-Branch Costs	-	-
D.	7.	Total Avoidable Costs	$497,100	$596,100
E.	8.	Net Grain or (Loss) from Operations	($ 99,200)	$ 81,900

SOURCE: Rarus Railway Company

TABLE 5-3.9
VALUE OF LAND AND TRACKAGE TO BE PURCHASED
BY THE STATE OF MONTANA

DESCRIPTION	VALUE
Land - Ramsay Yard 15.76 Acres @ $50/Acre	$ 788
Land - Mainline Right-of-Way 60.6 Acres @ $40/Acre	3,030
Trackage - Ramsay Yard	16,590
Mainline Trackage - Mile Post 7 to Mile Post 13	160,530
TOTAL	$180,938

The Purchase Price Of The Above Described Land And Trackage Shall Be $178,874.

SOURCE: Atlantic Richfield Co.

TABLE 5-3.10

DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS

Rarus Railway Co.

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT	
	Acquisition and Shortline Operation Alternative		
Railroad	Annual Operating Cost Savings	$ -497,100	(1)
		-596,100	
Truck/User	Annual Line Haul and Handling Cost	173,063	(1)
		1,226,352	
Other	Payroll Cost	27,300	(1)
	Acquisition Cost	-178,874	
	Liquidation Benefit	125,212	

(1) 1985 Only

NOTE: Negative Value Indicates Disbenefit To Affected Party

SOURCE: Montana Department of Commerce

TABLE 5-3.11

BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS

Rarus Railway Co.

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE (1)			BENEFIT/ COST RATIO
		Benefit	Cost	Net	
			(000's)		
Acquisition and Shortline Operation	$178.8	$4,758.9	$2,839.8	$1,919.2	1.68

(1) Discount Rate - 4 Percent
Project Life - 5 Years

SOURCE: Montana Department of Commerce

this alternative is $178,874 for the state to acquire the BAP system. Operating cost projections have been provided by the Rarus Railway Co. for 1985 and 1986, and this analysis assumes 1986 costs and traffic levels through the analysis period. The net present value of costs is $2.8 million. The majority of benefits from the project are truck costs saved when compared to moving the commodities by rail. The net present value of benefits is $4.7 million, resulting in a net present value of $1.9 million and a benefit/cost ratio of 1.68.

Conclusions

The Rarus Railway Company projects that it can operate at a profit in 1986 and in succeeding years. This shortline would provide much needed employment in an economically depressed area and would assure rail service into an area seeking to attract new business and expand its economic base. The project is favorable from an economic analysis point of view, as the benefit/cost ratio is 1.68 and the net present value is $1.9 million.

It should also be noted that potential for the expansion of business for Rarus is a possibility. Rarus may have the opportunity to provide switching services and provide service on light density lines in the region presently operated by Class I carriers.

Because this line serves an economically depressed area and because the shortline may be able to expand its operations, this project should be given a high priority for available funding, especially if it compares favorably to other lines analyzed in this report.

BUTTE TO WHITEHALL
Burlington Northern Railroad

This line runs east from Butte for approximately 29 miles to Whitehall as illustrated in Figure 5-4. Although the line is in fair to good condition, there has been no originating and terminating traffic in over eight years.

The status and issues of the Butte/Whitehall line are as follows:

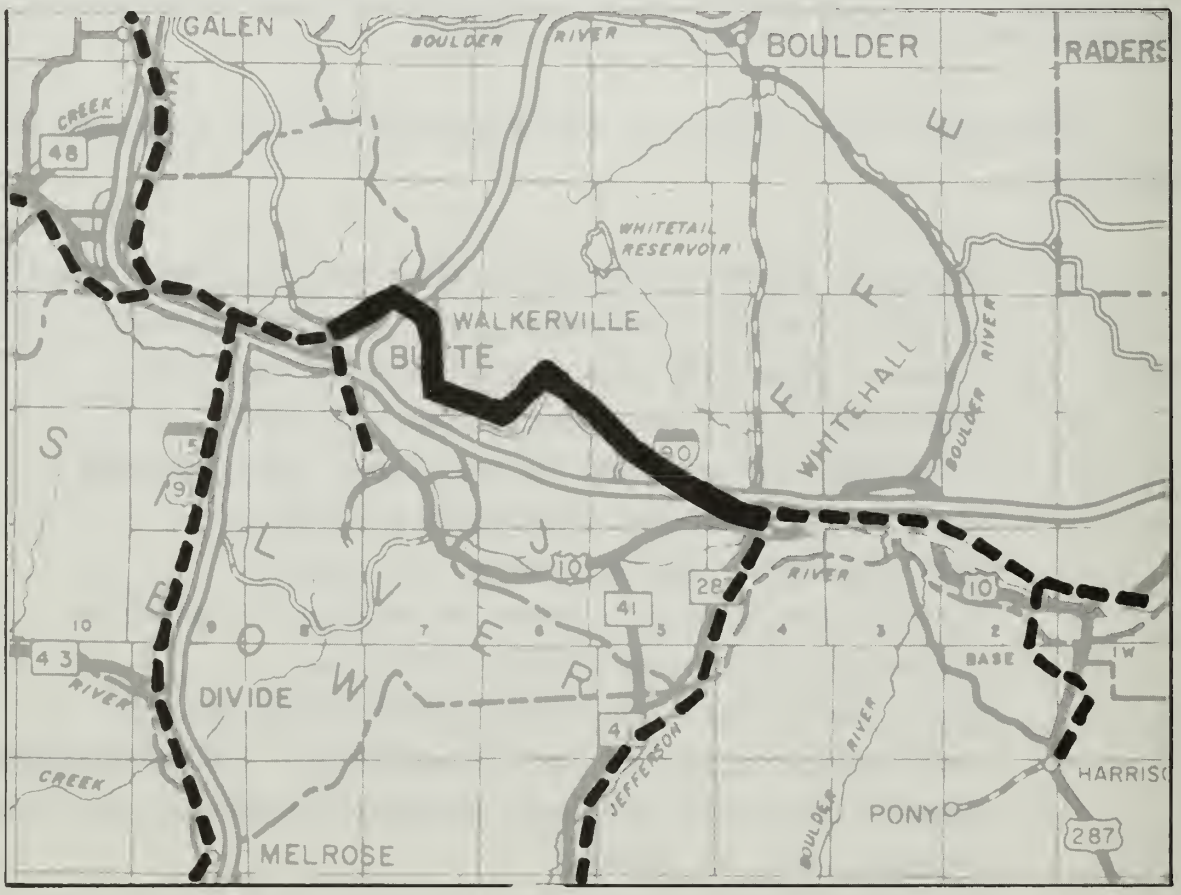
- Category I which indicates that the railroad intends to file for an abandonment within three years; however, the BNRR has agreed not to apply for abandonment at least until June of 1987.
- No traffic attributed to the line; only limited amounts of overhead (through) traffic.
- Most overhead traffic moves via Helena.
- Alternative mountain crossing option to provide relief for stressed Helena Crossing.
- State and others concerned about movement of oversized traffic to and from Butte. Butte/Whitehall segment has significantly better clearances that the segment west of Helena.
- Potential Amtrak route if southern service is restored.

Rail Use

The BNRR has reported no originating and terminating traffic between Butte and Whitehall since 1976. Occasional high and wide loads are moved because other routings are more restrictive. The BNRR estimates that less than a dozen high and wide loads are moved each year over this segment.

BUTTE - WHITEHALL

RAILROAD: BURLINGTON NORTHERN
LENGTH : 28.8 MILES
COUNTIES: SILVER BOW, JEFFERSON
STATUS : POTENTIAL ABANDONMENT - CATEGORY I



0 10 20 30

MILES

LEGEND

SUBJECT LINE

ALL OTHER LINES

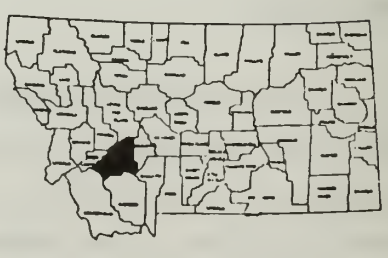


FIGURE 5-4

Rail Service

This line is generally used only for high and/or wide loads because other routes are more restrictive. The limiting dimensions of several BNRR segments are shown in Table 5-4.1. From this table, four routes can be constructed with the following limiting height for a twelve foot wide load:

- Laurel/Butte/Sandpoint, ID - 16'6" between Paradise and Sandpoint.
- Laurel/Helena/Sandpoint, ID - 10'0" between Helena and Garrison.
- Laurel/Great Falls/Sandpoint, ID - 16'0" between Laurel and Great Falls.
- Laurel/Helena/Great Falls/Sandpoint, ID - The width restriction for this section is 11'6" between Helena and Great Falls.

Highways

The Butte/Whitehall line is paralleled by Interstate 90 which has an 1983 ADT of 4,390 vehicles with 23 percent truck traffic and FAP 29 which has a 1983 ADT of 310 with 17 percent truck traffic. The highways are illustrated in Figure C-1.

Rail Inventory and Condition

The results of an inspection of this line are detailed in Table 5-4.2. The line has heavy rail, and it is exhibiting some wear particularly on curves. Some rail ends are also chipping. The ties are in fair condition, and the track is well anchored. The bridges on this line are in good condition, and the line can accommodate cars up to 315,000 pounds gross weight. (Curves and grades require speeds of 20-25 mph in most areas.)

TABLE 5-4.1

MAXIMUM HEIGHT ABOVE TOP OF RAIL FOR 12 FOOT WIDE LOADS

Selected Segments

Burlington Northern Railroad

LINE SEGMENT	MAXIMUM ALLOWABLE HEIGHT FOR 12 FT WIDTH
Laurel/Logan	20'0"
Logan/Butte/Garrison	17'0"
Logan/Helena	10'0"
Helena/Great Falls (1)	0'0"
Helena/Garrison	10'0"
Garrison/DeSmet	17'3"
DeSmet/St. Regis/Paradise	16'6"
Paradise/Sandpoint, ID	16'9"
Laurel/Great Falls	16'0"
Great Falls/Shelby	19'3"
Shelby/Cut Bank (2)	15'3"
Cut Bank/Sandpoint, ID	15'3"

(1) Maximum Load Width Capacity For This Structure Is 11'6".

(2) There Is No Designated Clearance For Shelby To Cutbank, Clearances Were Used For Shelby To Sandpoint.

SOURCE: Railway Line Clearances, Volume 191, National Railway Clearance Publication Company, New York, 1984.

TABLE 5-4.2
LINE FACILITIES CONDITION
Butte to Whitehall

Mileposts	- 68.0 - 39.2
Rail	- 3.7 miles of 100-lb rail, 0.8 miles of 112-lb rail, 6.8 miles of 115-lb rail, 2.3 miles of 131-lb rail, 15.2 miles of 132-lb rail; heavier rail laid mostly on curves, 100-lb rail only on tangents; rail on some curves has some gage face wear on high rail and low rail is flattening; rail on many curves has been transposed; some of the old rail has battered rail ends; line and surface, generally in good condition; joints are 24-in, 4-hose on 100-lb and the heavier rail is 36-in, 6-hole.
Ties	- Treated mixed hardwoods, generally in fair condition. At derailment sites some ties have been spotted in.
Tie Plates and Rail Anchors	- Fully plated with single shoulder tie plates in 100-lb rail, and double shoulder plates in heavier rail; track well anchored.
Ballast	- Sand and dirt between Butte and Pipestone, crushed rock between Pipestone and Whitehall.
Bridges	- Five (5); all appear in good condition.
Road Crossings	- Five (5); two (2) paved, three (3) unpaved.
Roadbed/ Ditching	- Roadbed width varies, many locations narrow but adequate; several cuts with weathered rock in ditches

that need to be removed; some embankment sluffing that must be restored.

Vegetation - Scattered locations of light weeds and grass; small trees are beginning to grow in roadbed.

Timetable
Speeds - 25 mph - Milepost 43.0 and 46.4
Ascending/Descending
25 mph - Milepost 46.4 and Homestake
15 mph - Homestake and Skones
25 mph - Skones and MP 68.0 Ascending
20 mph - Skones and MP 68.0 Descending

Weight
Restriction - 315,000 lb gross weight.

Net
Liquidation - $1,147,052 (track material), $35,148 (land)

SOURCE: Montana Department of Commerce

Rehabilitation Costs

Table 5-4.3 provides the details of the estimated rehabilitation needs between Butte and Whitehall. This work would be needed if the line was returned to regular service. The total estimated cost is $337,555 which is relatively low.

TABLE 5-4.3
REHABILITATION COST ESTIMATE
Butte to Whitehall

Clean Ditches, 6 miles @ $2,000/mile	$ 12,000
Cut Brush, 10 miles @ $600/mile	6,000
Crossties, New (700/mile x 10.3 miles) @ $18	129,780
Spikes, New (4,800/mile x 10.3 miles) @ $.36	17,798
Ballast (900 cu yd/mile x 10.3 miles) @ $3.60	33,372
Unload Materials, 10.3 miles @ $1,800	18,540
Timber and Surface, 10.3 miles @ $8,550	88,065
Rail End Welding, 5 days @ $450	2,250
Roadbed Repair	2,500
Smooth and Line, 21.8 miles @ $1,250/mile	27,250
Total Rehabilitation Cost*	$337,555

* Needed If Returned To Regular Service.
SOURCE: Montana Department of Commerce

Effects of Abandonment

Railroad - Without this line, the BNRR would release some assets which could be used elsewhere. However, as shown earlier, this line offers a less restrictive route for over-sized shipments. Some of this traffic could be lost if the line were abandoned, but very few shipments are actually too large for alternate routes. Abandonment would also eliminate a potential east-west route option for Amtrak under study at this time.

Rail Users - No railroad customers would be affected by abandonment except for occasional shippers of oversized traffic and for customers using the port of Montana which would lose a shorter eastern connection. Butte would be served from the north by BNRR and the south by the UP. Whitehall will continue to be served from the east.

Conclusions

No benefit/cost analysis for project funding was performed for this line since there is so little use made of the facility. The end points will continue to have adequate service. Some oversized shipments might be precluded if the line were abandoned, but there are few of these. The justifications for rail banking this line are to insure an eastern route into Butte which is attempting to expand its economy, to provide a potential Amtrak route, and to provide eastern access for a regional shortline carrier and western access for mining operations in the Alder area.

DIXON TO POLSON
Burlington Northern Railroad

This 33 mile light density line extends from the BNRR mainline at Dixon to Polson as illustrated in Figure 5-5. The principal towns are Pablo, Ronan, and Polson which generate virtually all of the rail traffic. The majority of the rail traffic on this line is lumber and wood products.

The status and issues concerning the Dixon to Polson branch are as follows:

- Light density line which has not been identified for possible abandonment.
- Two principal rail customers.
- Major rail users currently use truck for a substantial part of their business.
- Lumber industry is depressed due to the economy.
- An increasing amount of lumber is being shipped by truck.

Rail Use

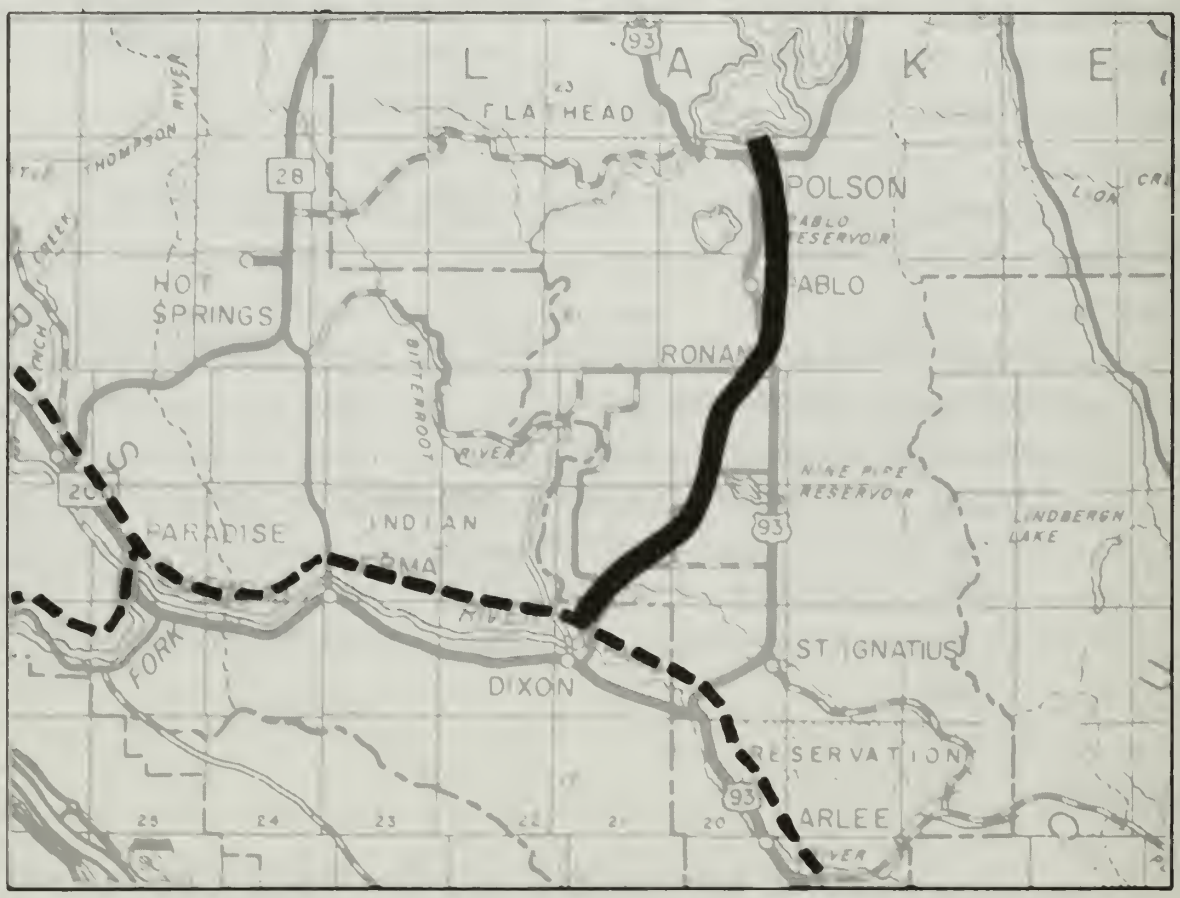
Over 85 percent of the traffic on this line is lumber and wood products as summarized in Table 5-5.1. Other traffic consists of agricultural products and other farming materials, insulation, and coal for residential use. Ten rail users, listed in Table 5-5.2, were identified by the User Survey.

Rail Service

This line connects with the light density mainline which runs from Paradise to DeSmet and is served twice a week. The

DIXON - POLSON

RAILROAD : BURLINGTON NORTHERN
LENGTH : 33.4 MILES
COUNTIES : SANDERS, LAKE
STATUS : LIGHT DENSITY LINE



0 10 20 30

MILES

LEGEND

SUBJECT LINE

ALL OTHER LINES

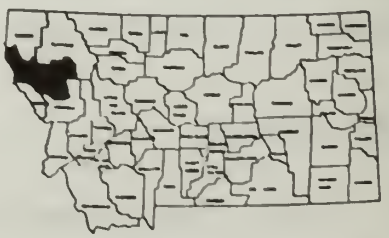


FIGURE 5-5

TABLE 5-5.1

RAILROAD USE STATISTICS - 1983

Dixon to Polson

	CARLOADS		TONS		
STATION	NIMBER	PERCENT	NUMBER	PERCENT	COMMODITY
			Originating		
Charlo	3	0.7	57.5	0.2	Misc. Freight
Ronan	17	4.1	1,700.0	6.8	Dry Fert.
Ronan	19	0.7	1,495.0	6.0	Grain
Pablo	323	78.0	17,765.0	71.3	Wood Products
Polson	50	12.0	3,000.0	12.0	Wood Products
			Terminating		
Ronan	1	0.2	0.2	Negligible	Machinery
Ronan	3	0.7	27.0	0.1	Insulation
Polson	6	1.4	550.0	2.2	Dry Fert.
Polson	1	0.2	60.0	0.2	Coal
Polson	8	1.9	320.0	1.3	Misc. Freight
TOTAL	431	100.0	24,976.0	100.0	

1983 Statistical Summary

Length: 33.4 Miles
Carloads Per Week: 8.28
Carloads Per Mile: 12.9
Revenue: $1,259,955

SOURCE: Montana Department of Commerce

TABLE 5-5.2
RAILROAD USERS
Dixon to Polson

NAME	STATION	SIDING(1)	COMMODITY
A.N.W. Montana Wool Growers Association	Charlo	T	Misc. Freight
Woody's Building Supply	Ronan	T	Insulation
Western Feed and Supply	Ronan, Charlo, Pablo	T	Chemicals, Farm Products
Stedje Brothers	Ronan	T	Machinery
Cenex/Co-op and Supply	Ronan	T	Chemicals
Plum Creek	Pablo	P	Lumber and Wood Products
Western Bee Supply	Polson	P	Misc. Freight
Flathead Lumber	Polson	P	Lumber and Wood Products
Mountain Feed and Supply	Polson	T	Chemicals
Bjork Distributors	Polson	T	Coal

(1) P - Private Or Leased Siding On Premises.
T - Team Track

SOURCE: Montana Department of Commerce

timetable speed is 25 mph.

Table 5-5.3 provides an estimate of the revenues and costs associated with the Dixon to Polson line. The revenues which BNRR received in 1983 are $1,259,955, and the costs attributable to the line are $856,239. The cost includes a return on value of the investment in the line as well as an allowance for normalized maintenance. Since the cost revenue exceed the costs, this line operated at a profit in 1983.

Highways

The Dixon to Polson line is paralleled by Federal Aid Primary Highway 5 and Federal Aid secondary Highway 212 as illustrated by Figure 5-5. FAP 5 also connects Ronan and St. Ignatius with the BNRR stations on the BNRR mainline to the south. Table 5-5.4 lists the highway distances to the nearest BNRR station at Dixon.

TABLE 5-5.4
DISTANCE TO SELECTED RAILROAD STATIONS
Dixon to Polson

TOWN	RAIL STATION	RAILROAD	DISTANCE (Miles)
Charlo	Dixon	BN	11.0
Ronan	Dixon	BN	19.0
Pablo	Dixon	BN	22.0
Polson	Dixon	BN	33.0

SOURCE: Montana Department of Commerce

Rail Inventory and Condition

The results of an inspection of the Dixon to Polson line are presented in Table 5-5.5. In general, the line is in

TABLE 5-5.3

ESTIMATED REVENUES AND COSTS

Dixon to Polson

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On Branch	$1,259,955
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$ 413,837
a. Maintenance of Way and Structures (Normalized)	216,348
b. Transportation	113,435
c. Maintenance of Equipment	84,054
3. Off-Branch Costs	283,126
4. Total Avoidable Costs (Line 2 + Line 3)	$ 696,963
5. Avoidable Loss from Operations (Line 1 - Line 4)	$(562,992)(1)
6. Net Liquidation (Line 6a + Line 6b)	$ 737,386
a. Materials	534,982
b. Land	202,404
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	$ 159,275
9. Total Avoidable Loss (Line 5 + Line 8)	$(403,717)(1)

(1) Parenthesis Indicates Gain

SOURCE: Montana Department of Commerce

TABLE 5-5.5
LINE FACILITIES CONDITION
Dixon to Polson

Mileposts	- 0.5 - 33.4
Rail	- Approximately 25.0 miles of 85-lb rail and 7.9 miles of 70-lb rail, except for 112-lb rail through the turnout at milepost 31.1 and 100-lb rail on east leg of the wye at Dixon; surface and alignment fair; joints are 24-in, 4-hole with quarter cracks.
Ties	- Treated mixed hardwoods and softwoods, average 25-30% defective; some ties damaged by joints in the lighter rail sections.
Tie Plates and Rail Anchors	- Fully plated with single shoulder tie plates; varying number of anchors throughout length of line; many locations with inadequate anchors allowing rail to run and skew joint ties.
Ballast	- Generally chips on cinders and dirt.
Bridges	- All appear in good condition.
Road Crossings	- Twenty-six (26); ten (10) paved, sixteen (16) unpaved.
Roadbed/ Ditching	- Generally adequate except where hill sides are slipping and filling ditches. In some areas this is an ongoing problem.
Vegetation	- Few areas have grass in ballast section.

Timetable Speed	- 25 mph
Weight Restriction	- 263,000 lb group loading
Net Liquidation	- $534,982 (track material), $202,404 (land)

SOURCE: Montana Department of Commerce

reasonably good condition with standard weight limit and a timetable speed of 25 mph. The majority of the line has medium weight rail which is adequate for current traffic. However, the lighter weight rail should be replaced. The ties are in generally good condition except through the lighter weight rail. The line is fully plated, but there are many locations with inadequate anchors which have allowed the ties to skew.

Rehabilitation Costs

Table 5-5.6 indicates that approximately $1,752,000 is needed to stabilize this line for a long term operating condition at the present standard. The majority of this cost is due to the need to replace segments of light weight rail and defective ties.

Effects of Abandonment

Railroad - This line had a considerable volume of lumber traffic in 1980 (765 carloads) but 1983 information suggests that the level has decreased due to the economically depressed Montana lumber industry, and the increased use of trucks. Abandonment of the line would save the railroad at least the on-branch costs of $573,000, but the railroad is making a profit on this line. Since the line is not identified for abandonment by the carrier, this possibility is not expected in the short term.

Rail Users - If rail users use alternate rail stations on the mainline, the estimated truck costs resulting from lost service are $128,000 annually.

Highways - Table 5-5.7 lists the expected increase in truck traffic on area highways that would result from branchline abandonment. Increases of average daily truck traffic over existing levels range from 0.4 percent to 2.5

TABLE 5-5.6

REHABILITATION COST ESTIMATE

Dixon to Polson

Rail, 100-lb Relay (176 tons/mile x 8.4 miles) @ $300	$ 443,520
Joints, 100-lb S.H. (320/mile x 8.4 miles) @ $9.32	25,052
Bolts, Locks, and Nuts, New (1,280/mile x 8.4 miles) @ $2	21,504
Tie Plates, S.H. (6,000/mile x 8.4 miles) @ $2.75	138,600
Spikes, New (12,000/mile x 8.4 miles) @ $ .36	36,288
Spikes, New (2,800/mile x 24.5 miles) @ $ .36	24,696
Rail Anchors, New (3,240/mile x 8.4 miles) @ $1.15	31,298
Crossties, New (700 mile x 33.0 miles) @ $18	427,140
Unload Material, 8.4 miles @ $2,800	23,520
Unload Material, 24.5 miles @ $2,200	53,900
Lay Rail, 8.4 miles @ $15,000	126,000
Timber and Surface, 33.9 miles @ $9,000	305,100
Ballast, (500 cu yd/mile x 33.9 miles) @ $3.60	61,020
Work Road Crossings, 23 @ $2,000	46,000
Change Out Defective 85-lb Rails with Material Released from 100-lb Rail Change, 5 days @ $800	4,000
Rail Anchors, New, 85-lb (1,920/mile x 24.5 miles) @ $1.15	54,096
Apply Anchors, 24.5 miles @ $800	19,600
Subtotal	$1,841,334
Less Value of Material Released	88,704
Total Rehabilitation Cost	$1,752,630

SOURCE: Montana Department of Commerce

TABLE 5-5.7

AREA HIGHWAY IMPACT ESTIMATES

Dixon to Polson

HIGHWAY	SECTION	MILEAGE	AVERAGE DAILY TRUCK TRAFFIC EXISTING	INCREASE	% INCREASE
FAP 5	Polson-Pablo	7	890	0.4	0.04
FAP 5	Pablo-Ronan	5	703	2.4	0.3
FAP 5	Ronan-I-90	46	721	2.5	0.3

Total Estimated Annual Highway Impact Cost: $54,274

SOURCE: Montana Department of Highways
Montana Department of Commerce

percent. An annual estimated highway impact cost of $54,274 would be attributed to increased truck traffic.

Alternatives Evaluated

As a line included in the Chapter 653 study, rehabilitation and acquisition/rehabilitation alternatives have been evaluated. The results are summarized in Tables 5-5.8 and 5-5.9.

Rehabilitation - The project cost of the alternative is approximately $1,752,000. The net present value of benefits over a ten year period is $1.6 million, and the present value of costs if $6.0 million, resulting in a benefit/cost ratio of 0.28.

Acquisition/Rehabilitation - The project cost of this alternative is approximately $2,490,000. The net present value of benefits over a ten year period is $2.2 million, and the present value of costs is $6.0 million, resulting in a benefit/cost ratio of 0.32.

Conclusions

The traffic on this line is at a lower level than previous years due to the state of the construction industry and the increased use of trucks. However, an upturn in the demand for wood products could result in increased rail traffic, and shippers presently use rail to ship and receive significant tonnages. A significant number of shippers would be affected by an abandonment, and as a result, a rehabilitation or an acquisition rehabilitation project would be recommended if the possibility of abandonment becomes likely and if the project compares favorably with other lines analyzed in this report.

TABLE 5-5.8

DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS

Dixon to Polson

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
	Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$-573,112
Truck/User	Annual Line Haul and Handling Cost	128,791
Other	Net Salvage Value of Rehabilitation Materials	447,315
	Annual Highway Impact Cost	54,274
	Acquisition/Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$-573,112
Truck/User	Annual Line Haul and Handling Cost	128,791
Other	Acquisition Cost (Land and Materials)	-737,386
	Annual Highway Impact Cost	54,274
	Net Salvage Value of Rehabilitation Materials	447,315
	Liquidation Benefits	737,386

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Montana Department of Commerce

TABLE 5-5.9

BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS

Dixon to Polson

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE(1) BENEFIT	COST	NET	BENEFIT /COST RATIO
			(000's)		
Rehabilitation	$1,752.6	$1,675.4	$6,013.9	$-4,338.5	0.28
Acquisition/ Rehabilitation	$2,490.0	$2,193.5	$6,751.3	$-4,557.8	0.32

(1) Discount Rate - 4 Percent
Project Life - 10 Years

SOURCE: Montana Department of Commerce

DRUMMOND TO PHILIPSBURG
Burlington Northern Railroad

This branchline is located in Granite County and extends south from the BNRR mainline at Drummond to Philipsburg and is approximately 26 miles long. The line is now out of service due to a derailment, which damaged the track. Figure 5-6 illustrates the location of this line.

The status and issues surrounding this are as follows:

- Category I. However, the BNRR has agreed not to apply for abandonment at least until June of 1987.
- The major shipper, a wood yard, has closed.
- Metallic ores have been shipped on the line but are now being trucked to East Helena; rail distance is approximately 100 miles and is considered to be a short haul by rail.

Rail Use

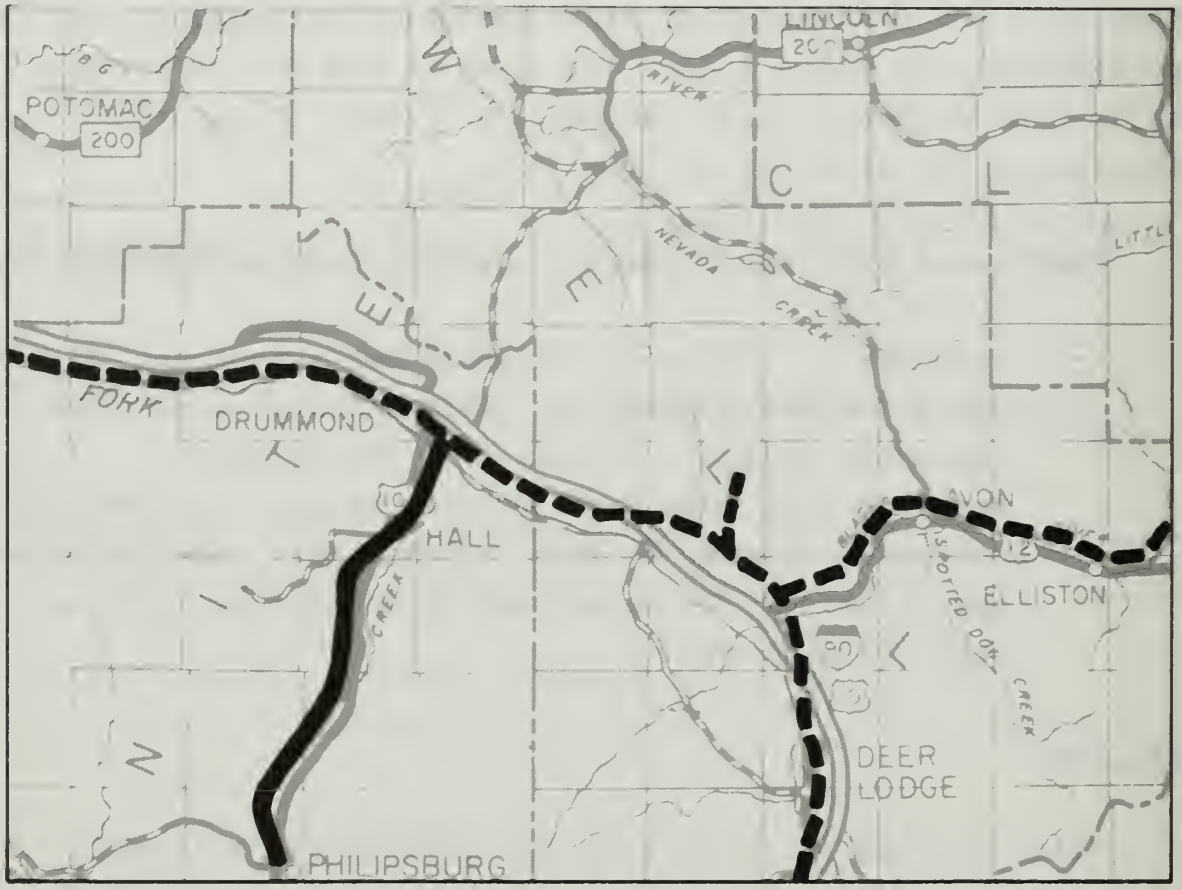
This line has not been used for several years. Table 5-6.1 lists traffic volume history for the line, and Table 5-6.2 lists the former rail users.

Rail Service

No service is provided because the line has been damaged from a derailment. Prior to that time the line was served as needed at a maximum speed of 30 mph. The line connects with the BNRR's southern mainline which runs from Mossmain to Sandpoint, Idaho.

DRUMMOND TO PHILIPSBURG

RAILROAD: BURLINGTON NORTHERN
LENGTH: 26.2 MILES
COUNTIES: GRANITE
STATUS: POTENTIAL ABANDONMENT · CATEGORY I



0 10 20 30

MILES

LEGEND

SUBJECT LINE

ALL OTHER LINES

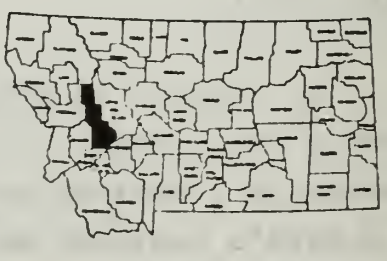


FIGURE 5-6

TABLE 5-6.1

TRAFFIC VOLUME HISTORY

1976 - 299
1977 - 150
1978 - 190
1979 - 72
1980 - 86
1982 - 0
1983 - 0
1984 - 0

SOURCE: Burlington Northern Railroad
Montana Department of Commerce

TABLE 5-6.2
FORMER RAILROAD USERS
Drummond to Philipsburg

NAME	STATION	SIDING(1)	COMMODITY
Hogan's Ranch Supply	Hall	T	Chemicals
Chuck Crabtree	Philipsburg	P	Lumber & Wood Products
Black Pine Mine	Philipsburg	P	Metallic Ore

(1) P - Private Or Leased Siding On Premises.
T - Team Track

SOURCE: Burlington Northern Railroad
Montana Department of Commerce

Highways

The Drummond to Philipsburg line is paralleled by Federal Aid Primary Highway 19. FAP 19 also provides a route from Philipsburg to Anaconda and between I-90 and the BNRR mainline. Traffic on FAP 19 varies from 535 to 1,200 vehicles per day with 11 percent truck traffic. The distance to Drummond, the closest alternative station is 31 miles as listed in Table 5-6.3.

TABLE 5-6.3
DISTANCE TO SELECTED RAILROAD STATIONS
Drummond to Philipsburg

TOWN	ALTERNATIVE RAIL STATION	RAILROAD	ROAD DISTANCE
Philipsburg	Drummond	BN	26

SOURCE: Montana Department of Commerce

Rehabilitation Costs

The Philipsburg line rehabilitation needs are listed in Table 5-6.4. A total of $506,111 is needed for cross ties and related work, and another $6,500 is needed to repair the short segment that was damaged by the derailment. These estimates are taken from the 1982 Rail Plan.

Effects of Abandonment

Railroad - Since the traffic on this line had declined even before the track went out of service, BNRR had incurred both operating losses and opportunity costs of relatively unproductive assets. Therefore, abandonment would eliminate these costs which in 1980 were estimated at $285,841. Mining potentials beyond a one to five year time frame would most

TABLE 5-6.4

REHABILITATION COST ESTIMATE

Drummond to Philipsburg (1)

Ditch and Repair Roadbed, 3 miles @ $1,000	$ 3,000
Joints, 90 lb S.H. (32/mile x 15.7 miles) @ $6.00	3,014
Bolts and Nut Locks, New (128/mile x 15.7 miles) @ $1.75	3,517
Crossties, New (600/mile x 15.7 miles) @ $17.00	160,140
Spikes, New (2,400/mile x 15.7 miles) @ $ .36	13,565
Rail Anchors, New (2,240/mile x 15.7 miles) @ $1.15	40,443
Ballast, (1,000 tons/mile x 15.7 miles) @ $3.75	58,875
Ballast, (700 tons/miles x 10.3 miles) @ $3.75	27,038
Unload Material, 15.7 miles @ $1,800	28,260
Unload Material, 10.3 miles @ $1,500	15,450
Timber and Surface, 15.7 miles @ $6,000	94,200
Surface and Line, 10.3 miles @ $2,500	25,750
Install Joints and Anchors, 15.7 miles @ $1,000	15,700
Work Road Crossings, 9 @ $2,000	18,000
Subtotal	$506,952
Less Value of Material Released	- 840
Total Rehabilitation Cost	$506,111
Restore 240 T.F. at Derailment Site:	
Crossties, New, 137 @ $17.00	$ 2,329
Tie Plates, S.H. 274 @ $1.25	343
Rail, 90 lb Relay, 1.2 tons @ $1.75	210
Joints, S.H., 14 @ $6.00	84
Bolts and Nut Locks, New, 56 @ $1.75	98
Spikes, New, 548 @ $ .36	197
Ballast, 160 tons @ $3.60	576
Track Laying and Surfacing, 240 T.F. @ $11	2,640
Restoration of Track	$ 6,477
Total Rehabilitation and Service Restoration Cost	$512,587

(1) 1982 Estimates

SOURCE: Wilbur Smith and Associates

likely be prohibitive in terms of unproductive railroad assets to justify retention of this line.

Rail Users - The traffic on this line had nearly disappeared with the closure of two businesses. Therefore, there are no user impacts of abandonment. There is, however, potential traffic that could result from mining activity. At present, active mines are using trucks for relatively short haul movements. These companies did not utilize the branchline prior to the derailment.

Highways - Since the line is not used, there are no highway impacts of abandonment.

Alternatives Evaluated

Tables 5-6.5 and 5-6.6 provide the results of the analysis of two alternatives for this line.

Acquisition, Drummond to Philipsburg - At the 1976 traffic levels the benefit/cost ratio is 0.32 and the net present value is $-2.469 million.

Acquisition/Rehabilitation, Drummond to Philipsburg - This alternative produces a low benefit/cost ratio even at 1976 traffic levels. The benefit/cost ratio is 0.29, and the net present value is $-2.971 million.

Conclusions

This line had a very low traffic level even before a derailment forced the line out of service. Therefore, potential traffic would be the only reason to restore service. Although there is active mining in the area, little moved by rail over this line prior to the derailment. This mining cannot be considered as a strong potential for future rail use

without further market development. This line is not recommended for funding unless it ranks favorably with other lines in this report.

TABLE 5-6.5

DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS

Drummond to Philipsburg

1976 Traffic Level

TYPE	DESCRIPTION	BENEFIT
	Acquisition Alternative	
Railroad/ Operator	Annual Cost Savings On-Branch	$-358,161
	Annual Cost Savings Off-Branch	0
Truck/User	Annual Line Haul and Handling Cost	65,677
Other	Liquidation Value of Lane	126,000
	Net Salvage Value of Track Materials	866,000
	Acquisition/Rehabilitation Alternative	
Railroad/ Operator	Annual Cost Savings On-Branch	$-358,161
	Annual Cost Savings Off-Branch	0
Truck/User	Annual Line Haul and Handling Cost	65,677
Other	Liquidation Value of Land	126,000
	Net Salvage Value of Track Materials	881,651

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Wilbur Smith and Associates.

TABLE 5-6.6

BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS

Drummond to Philipsburg

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE(1) Benefit	Cost	Net	BENEFIT/ COST RATIO
			(000's)		
Acquisition (2)	$ 992.0	$1,185.4	$3,655.0	$-2,469.7	0.32
Acquisition/ Rehabilitation (2)	1,504.6	1,196.3	4,167.6	-2,971.3	0.29

(1) Discount Rate - 4 Percent.
Project Life - 10 Years.

(2) 1976 Traffic Level

SOURCE: Wilbur Smith and Associates.

GREAT FALLS TO FORT BENTON
Burlington Northern Railroad

The Great Falls to Fort Benton line parallels, for the most part, Federal Aid Primary (FAP) 10 through Cascade and Chouteau Counties for 44.6 miles. There are five stations on this line that generate revenue. Timetable speed on this line is 25 miles per hour. The location of this line is illustrated in Figure 5-7.

Several issues surround the Great Falls to Fort Benton line:

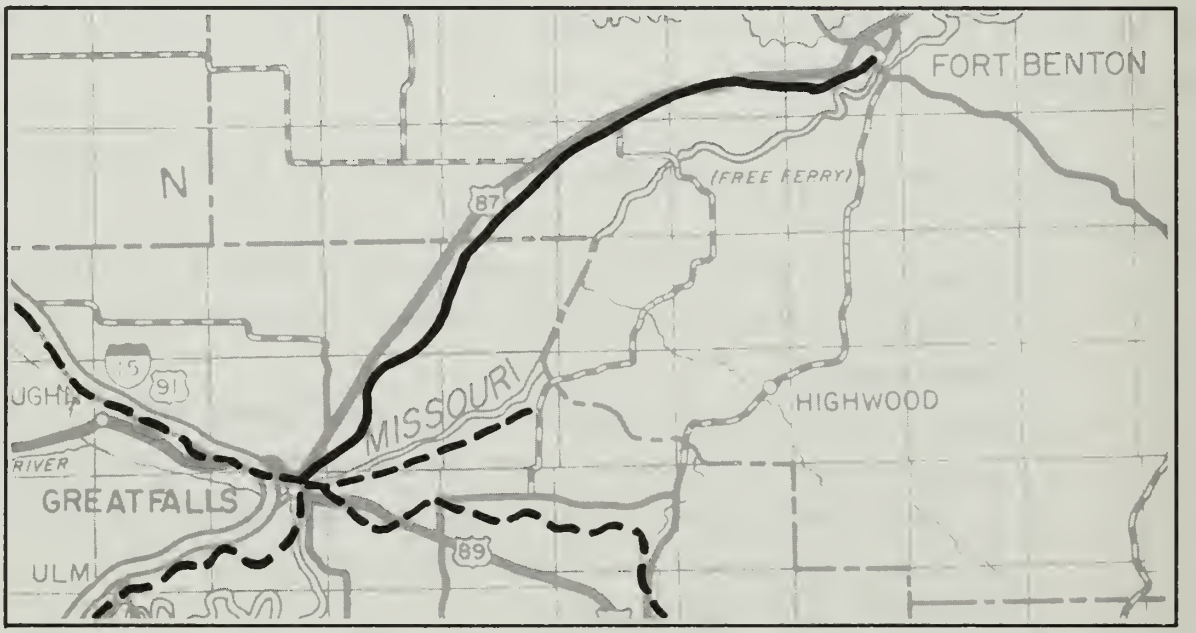
- Category V line: It is owned and operated by the Burlington Northern and it is not scheduled for abandonment.
- Fort Benton is now served only from Great Falls.
- Shippers in Fort Benton are concerned about being on a "stub end" line. Since the segment north of Fort Benton is already salvaged, this situation is probably not reversible.
- Normalized maintenance should keep the line in good condition at current traffic levels. Some special work may be necessary around MP 109.
- Compared to other branchlines in the state, this line generates very high traffic volumes.

Rail Use

This branchline generated 5,599 carloads of which 97% was farm products and the remaining three percent was fertilizer and machinery. Rail use statistics are shown in Table 5-7.1. There are 12 rail users on this line and they are listed in Table 5-7.2.

GREAT FALLS TO FORT BENTON

RAILROAD: BURLINGTON NORTHERN
LENGTH: 44.6 MILES
COUNTIES: CASCADE, CHOUTEAU
STATUS: LIGHT DENSITY LINE



0 10 20 30 40 50 MILES

SUBJECT LINE

ALL OTHER LINES

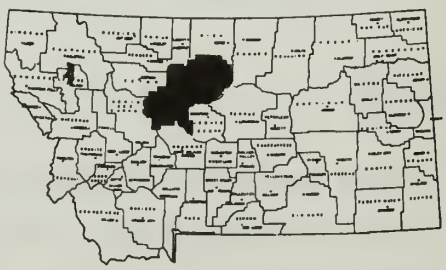


FIGURE 5-7

TABLE 5-7.1

RAILROAD USE STATISTICS

Great Falls to Fort Benton

STATION	CARLOADS NUMBER	CARLOADS PERCENT	TONS NUMBER	TONS PERCENT	COMMODITY
		Originating			
Portage	5	0.1	500	0.1	Grain
Floweree	10	0.2	1,000	0.2	Grain
Carter	946	16.9	96,167	17.4	Grain
Kershaw/ Fort Benton	4,498	80.3	444,980	80.1	Grain
		Terminating			
Fort Benton	80	1.4	8,000	1.4	Fertilizer
Fort Benton	10	0.2	27.5	Negligible	Machinery
Carter	30	0.5	3,000	0.5	Fertilizer
Carter	20	0.4	1,640	0.3	Fertilizer
TOTAL	5,599	100.0	555,314	100.3	Fertilizer

1983 Statistical Summary

Length: 44.6 Miles
Carloads Per Week: 107.67
Carloads Per Mile: 125.54
Revenue: $14,158,773

SOURCE: Montana Department of Commerce

TABLE 5-7.2

RAILROAD USERS

Great Falls to Fort Benton

NAME	STATION	SIDING(1)	COMMODITY
Rick Rominger	Portage	P	Farm Products
Gary Rominger	Floweree	P	Farm Products
Walker Co., Inc.	Floweree	P	Farm Products
Shoco Fertilizer	Carter	P	Fertilizer
Kernaghan's Service	Carter	P	Fertilizer
General Mills	Carter	P	Farm Products
Peavey	Carter	P	Farm Products
United Grain Company	Kershaw	P	Farm Products
Cargill, Inc.	Fort Benton	P	Farm Products
Green Line Implement	Fort Benton	*	Machinery
Farmers Union Oil Co./Cenex	Fort Benton	*	Petroleum Products
General Mills, Inc.	Fort Benton	P	Farm Products

* Leased from Cargill, Inc.

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(1) P - Private Or Leased Siding On Premises
T - Team Track

SOURCE: Burlington Northern Railroad
Montana Department of Commerce

Rail Service

Rail service is provided as needed to users on this branchline. The estimated revenues and costs between Great Falls and Fort Benton are presented in Table 5-7.3. In 1983, this line generated revenues of $14,158,773, had costs of $5,303,848, and resulted in profits of $8,854,925. This total includes the opportunity cost of the land and material.

Highways

Federal Aid Primary (FAP) 10 parallels the railroad for most of its 44.6 miles from Great Falls to Fort Benton. FAP 10 also connects Fort Benton to Big Sandy and Havre where it meets FAP 5. FAP 10 along with several Federal Aid Secondary highways are illustrated in Figure 5-7. Traffic varies between 2,008 vehicles per day near Portage to 1,361 vehicles per day at Fort Benton. Twelve percent of this traffic is commercial. Table 5-7.4 lists highway mileages to alternative rail stations.

Rail Inventory and Condition

This 44.6 mile stretch is in generally good condition with medium weight 90-lb rail. The line has good crossties and is fully plated with generally adequate anchoring. There is a small fill area around MP 109 that is unstable and will need attention periodically. Timetable speed is 25 mph. Table 5-7.5 provides further details concerning the condition of this line. This line is not in need of rehabilitation.

Effects of Abandonment

Railroad - Abandonment of this branchline would inflict a loss of $8.8 million annually. Abandonment does not seem to be a possibility at this time.

TABLE 5-7.3

ESTIMATED REVENUES AND COSTS

Great Falls to Fort Benton

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On-Branch	$14,158,773
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$ 1,240,715
a. Maintenance of Way and Structures (Normalized)	270,000
b. Transportation	486,929
c. Maintenance of Equipment	483,786
3. Off-Branch Costs	$ 3,900,640
4. Total Avoidable Costs (Line 2 + Line 3)	$ 5,141,355
5. Avoidable Loss from Operations (Line 1 - Line 4)	$(9,017,418)(1)
6. Net Liquidation (Line 6a + Line 6b)	$ 752,281
a. Materials	643,686
b. Land	108,595
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	$ 162,493
9. Total Avoidable Loss (Line 5 + Line 8)	$(8,854,925)(1)

(1) Parenthesis Indicates Gain

SOURCE: Montana Department of Commerce

TABLE 5-7.4

DISTANCE TO SELECTED RAILROAD STATIONS

Great Falls to Fort Benton

TOWN	ALTERNATIVE RAIL STATION	RAILROAD	ROAD DISTANCE (Miles)
Fort Benton	Big Sandy	BN	38
	Great Falls	BN	40
Kershaw	Great Falls	BN	39
Carter	Great Falls	BN	26
Floweree	Great Falls	BN	22
Portage	Great Falls	BN	13

SOURCE: Montana Department of Commerce

TABLE 5-7.5

LINE FACILITIES CONDITION

Great Falls to Fort Benton

Mileposts	- 119.4 to 74.6
Rail	- 90-lb rail generally in good condition.
Ties	- Treated softwoods and hardwoods in good condition.
Tie Plates and Rail Anchors	- Fully plated with single shoulder plates; varying number of anchors that are generally adequate.
Ballast	- Crushed rock and gravel.
Bridges	- Thirteen bridges on the line and all that were observed were in good condition.
Road Crossings	- Eleven (11), three (3) paved, eight (8) unpaved.
Roadbed/Ditching	- Roadbed in good condition except around MP 109 where fills are moving. Ditches generally adequate.
Vegetation	- Ballast section clear with grass on rest of right-of-way.
Timetable Speed	- 25 mph
Weight Restrictions	- 263,000 lb gross weight
Net Liquidation	- $643,686 (material), $108,595 (land)

SOURCE: Montana Department of Commerce

Rail Users - Twelve rail users generating 5,599 cars of rail traffic would be affected by an abandonment of this branchline. Rail users would absorb trucking costs of $2.6 million per year.

Highways - Assuming all traffic on this line was trucked to Great Falls on FAP 10, abandonment of this line would result in 49 additional trucks per day. This figure represents a very significant increase of 24% truck traffic on FAP 10. Such an increase would adversely impact area highways.

Alternatives Evaluated

This line is not in need of rehabilitation, is not scheduled for abandonment, and is profitable for the railroad. Therefore, alternatives to retain rail service have not been evaluated.

Conclusions

This branchline is not scheduled for abandonment and is in reasonably good condition. Abandonment in the near future does not appear to be a possibility due to the financial viability of its operation. Appearances are that competitive rates have been preserved as traffic is not being forced to the mainline.

LEWISTOWN TO HEATH
Burlington Northern Railroad

This line extends from Lewistown southeast 9.6 miles to Heath in Fergus County with all traffic generated at Heath. The principle commodities shipped are wallboard and paper products. Figure 5-8 illustrates the location of this branch-line.

The status and several issues concerning this line are as follows:

- The line is in Category I; however, the BNRR has agreed not to apply for abandonment at least until June of 1987.
- There is one shipper on the line. The U.S. Gypsum Co. mines gypsum rock and manufactures wallboard.
- In 1983, 17 carloads of paper and one carload of chemicals used in the manufacturing of gypsum board came into the plant. No gypsum board was shipped by rail in 1983.
- An increase in rail use is not expected as long as truck rates remain competitive.

Rail Use

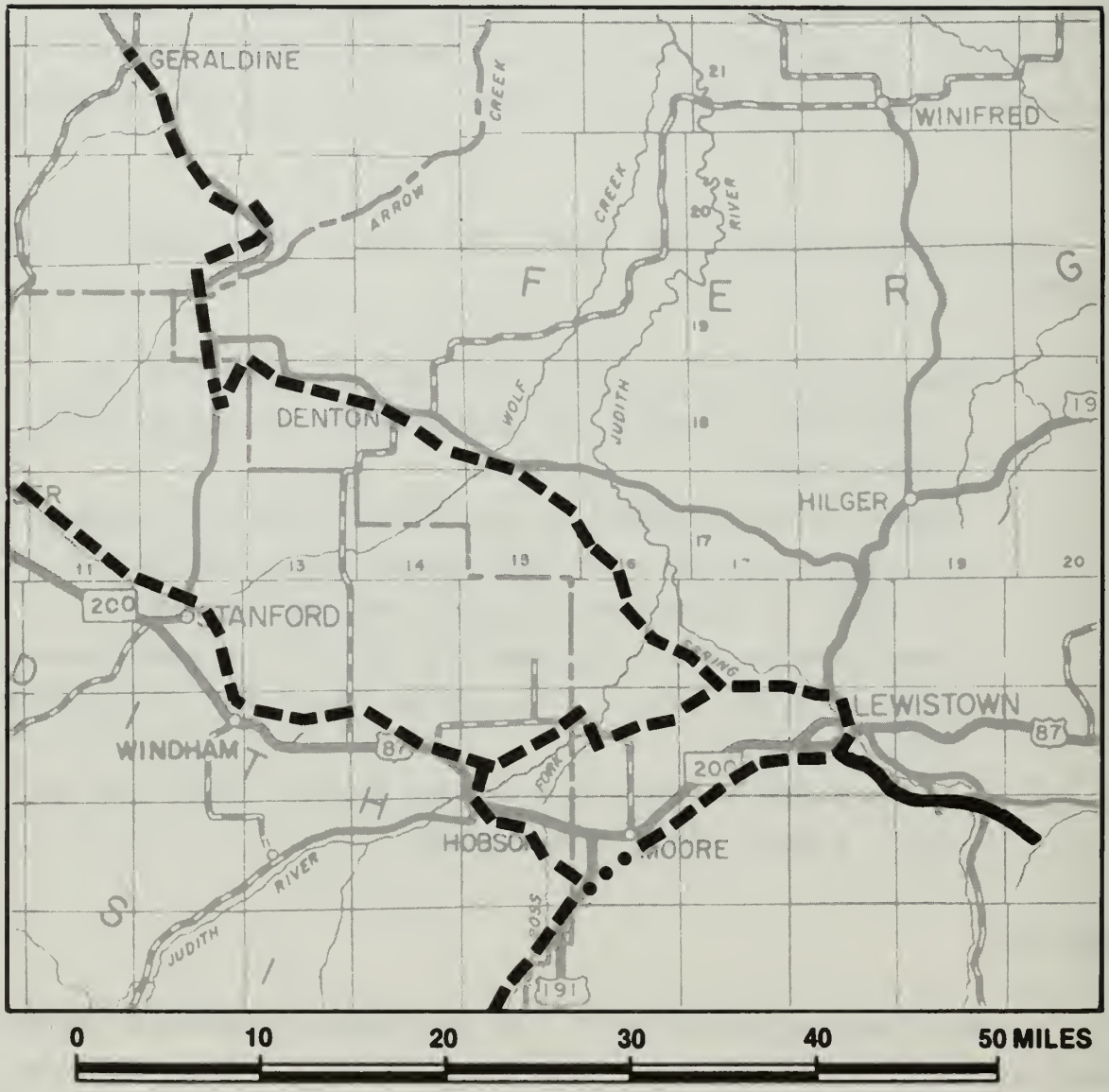
As detailed in Table 5-8.1, 18 carloads of revenue traffic carrying 833 tons moved over this line in 1983. This revenue traffic was paper and wallboard.

Rail Service

This line connects with the Burlington Northern mainline

LEWISTOWN TO HEATH

RAILROAD: BURLINGTON NORTHERN
LENGTH: 9.6 MILES
COUNTIES: FERGUS
STATUS: POTENTIAL ABANDONMENT - CATEGORY I



SUBJECT LINE

ALL OTHER LINES

UNDER CONSTRUCTION

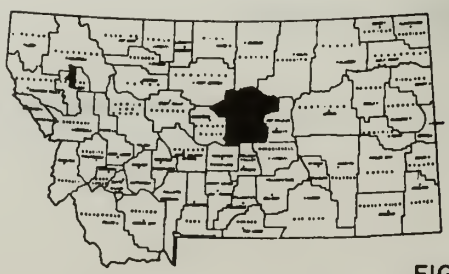


FIGURE 5-8

TABLE 5-8.1

RAILROAD USE STATISTICS

Lewistown to Heath

	CARLOADS		TONS		
STATION	NUMBER	PERCENT	NUMBER	PERCENT	COMMODITY
			Originating		
Heath	18	100	833	100	Paper

1983 Statistical Summary

Length: 9.2 Miles
Carloads Per Week: .34
Carloads Per Mile: 1.95
Revenue: $45,482

Traffic Volume History

1983 18
1982 0

SOURCE: Montana Department of Commerce

at Lewistown. Burlington Northern services this line as needed. Timetable speed is 10 miles per hour.

The estimated revenue and cost to serve Heath is presented in Table 5-8.2. Revenue freight originating and terminating amounted to $45,482. However, total costs (including opportunity costs) amounted to $102,539 generating a $57,057 loss.

Highways

Federal Aid Secondary Highway 238 parallels this line for most of its length, the exception being the final mile into Heath where the road becomes a county facility. Traffic volume in 1983 on this highway varied from 1,357 ADT near Lewistown to 86 ADT near Heath. Approximately 25% of this traffic was commercial. Table 5-8.3 lists the road distance to alternate stations.

TABLE 5-8.3
DISTANCE TO SELECTED RAILROAD STATIONS
Lewistown to Heath

TOWN	ALTERNATIVE RAIL STATION	RAILROAD	ROAD DISTANCE
Heath	Lewistown	BN	10

SOURCE: Montana Department of Commerce

Rail Inventory and Condition

Inspection of this line, detailed in Table 5-8.4, reveals the Lewistown to Heath line is in poor condition with light-weight rail, varying use of rail anchors and tie failure due to breakage and rot. The line can carry 263,000 pound cars.

Rehabilitation Costs

Phase I rehabilitation at a cost of $393,812 would

TABLE 5-8.2
ESTIMATED REVENUES AND COSTS
Lewistown to Heath

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On-Branch	$ 45,482
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$ 66,253
a. Maintenance of Way and Structures (Normalized)	63,000
b. Transportation	1,511
c. Maintenance of Equipment	1,742.61
3. Off-Branch Costs	$ 9,438
4. Total Avoidable Costs (Line 2 + Line 3)	$ 75,691
5. Avoidable Loss from Operations (Line 1 - Line 4)	$ 30,209
6. Net Liquidation (Line 6a + Line 6b)	$124,300
a. Materials	101,030
b. Land	23,270
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	$ 26,848
9. Total Avoidable Loss (Line 5 + Line 8)	$ 57,057

SOURCE: Montana Department of Commerce

TABLE 5-8.4
LINE FACILITIES CONDITION
Lewistown to Heath

Mileposts	- 0.8 - 10.4
Rail	- 9.6 miles of 75-lb rail, generally in fair condition except in areas of poor subgrade.
Ties	- Treated softwoods with about 30% broken or rotten.
Tie Plates and Rail Anchors	- Fully plated with single shoulder tie plates with varying number of rail anchors.
Ballast	- Pit run gravel and dirt, additional ballast needed to restore surface.
Bridges	- Eight (8) bridges.
Road Crossings	- Three (3) road crossings.
Roadbed/ Ditching	- Scattered locations of poor subgrade.
Vegetation	- Grass and weeds growing in ballast section.
Timetable Speed	- 10 mph
Weight Restrictions	- 263,000 lb gross weight.
Net Liquidation	- $101,030 (track material), $23,270 (land)

SOURCE: Montana Department of Commerce

stabilize the line for the short term and raise it to Class II (25 mph) standards. Phase II rehabilitation would replace the lightweight rail, allowing the long term operation of 263,000 pound cars at a Class III speed of 35 mph. Table 5-8.5 contains the details of cost estimates to rehabilitate this branch. Total line rehabilitation (Phases I and II) would cost $1,306,141. Phase II rehabilitation would be necessary only if traffic on the line increased dramatically.

Effects of Abandonment

Railroad - Without this line, the railroad could employ the line's assets elsewhere. It is estimated that the railroad would save approximately $93,103 in on-branch and opportunity costs.

Rail Users - This rail line parallels Montana Secondary Highway 238 from Lewistown to Heath. U.S. Gypsum ships the majority of their product by truck and would change entirely to truck if the line were abandoned. According to the shipper survey, abandonment of this line would have little impact on the line's sole shipper.

Highways - Without the line, truck traffic impact would be negligible as the majority of all shipping is by truck. There would be an increase of .04 truck trips per day.

Alternatives Evaluated

Tables 5-8.6 and 5-8.7 provide the results of several alternative projects for this branch.

Rehabilitation, Phase I - This line is in need of a large amount of rehabilitation in order to handle higher timetable speed. Total rehabilitation cost of Phase I is $393,812. The present value of the benefits over 10 years is $577,000. The

TABLE 5-8.5

REHABILITATION COST ESTIMATE

Lewistown to Heath

Phase I

Ditching and Roadbed Repair, 10.5 miles @ $1,000	$ 10,500
Crossties, New (1,000/mile x 10.5 miles) @ $18	189,000
Spikes, New (4,000/mile x 10.5 miles) @ $ .36	15,120
Ballast (900 cu yd/mile x 10.5 miles) @ $3.60	34,020
Unload Material, 10.5 miles @ $2,200	23,100
Timber and Surface, 10.5 miles @ $10,500	110,250
Work Road Crossings, 4 @ $2,000	8,000
Weed Control, 10.5 miles @ $364	3,822
Subtotal	$ 393,812
Less Value of Material Released	---
Total Rehabilitation Cost, Phase I	$ 393,812

With Rail Relay Add: Phase II

Rail, 100-lb Relay (176 tons/mile x 10.5 miles) @ $300	$ 554,400
Joints, 100-lb S.H. (320/mile x 10.5 miles) @ $9.32	31,315
Bolts, Locks, and Nuts (1,280/mile x 10.5 miles) @ $2	26,880
Tie Plates, S.H. (6,000/mile x 10.5 miles) @ $2.75	173,250
Spikes, New (8,000/mile x 10.5 miles) @ $ .36	30,240
Anchors, New (3,240/mile x 10.5 miles) @ $1.15	39,123
Unload Material, 10.5 miles @ $1,000	10,500
Lay Rail, 10.5 miles @ $15,000	157,500
Subtotal	$1,023,209
Les Value of Material Released	110,880
Total Rehabilitation Cost, Phase II	$ 912,329
Total Phase I and Phase II Cost	$1,306,141

SOURCE: Montana Department of Commerce

TABLE 5-8.6

DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS

Lewistown to Heath

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
	Rehabilitation (Phase I)	
Railroad	Annual Cost Savings On-Branch	$ -92,379
	Annual Cost Savings Off-Branch	-9,438
Truck/User	Annual Line Haul and Hauling Cost	71,973
Other	Net Salvage of Rehabilitation Materials	60,406
	Rehabilitation (Phase II)	
Railroad	Annual Cost Savings On-Branch	$ -92,242
	Annual Cost Savings Off-Branch	-9,438
Truck/User	Annual Line Haul and Hauling Cost	71,973
Other	Net Salvage of Rehabilitation Materials	516,570
	Rehabilitation (Phase 1)/Acquisition	
Railroad	Annual Cost Savings On-Branch	$ -92,379
	Annual Cost Savings Off-Branch	-9,438
Truck/User	Annual Line Haul and Hauling Cost	71,973
Other	Net Salvage Value of Track Materials	60,400
	Liquidation Benefits	124,300
	Acquisition Cost (Land and Track Materials)	-124,300
	Rehabilitation (Phase II)/Acquisition	
Railroad	Annual Cost Savings On-Branch	$ -92,242
	Annual Cost Savings Off-Branch	-9,438
Truck/User	Annual Line Haul and Hauling Cost	71,973
Other	Net Salvage Value of Land and Track Materials	516,570
	Liquidation Benefits	124,300
	Acquisition Cost (Land and Track Materials)	-124,300

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Montana Department of Commerce

TABLE 5-8.7

BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS

Lewistown to Heath

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE (1)			BENEFIT /COST RATIO
		BENEFIT	COST	NET	
			(000's)		
Rehabilitation Phase I	$ 393.8	$577.6	$1,150.9	$ -573.3	.50
Rehabilitation Phase II	1,306.1	898.1	2,062.2	-1,164.1	.44
Acquisition/ Rehabilitation Phase I	518.1	664.9	1,275.2	-610.2	.52
Acquisition/ Rehabilitation Phase II	1,430.4	985.4	2,186.5	-1,201.1	.45

(1) Discount Rate - 4 Percent
Project Life - 10 Years

SOURCE: Montana Department of Commerce

benefit cost ratio is 0.50. Phase I rehabilitation entails provisions which would update the maintenance necessary to provide service at 25 mph on a regular, consistent schedule.

Rehabilitation, Phase II - Phase II rehabilitation includes the steps necessary in Phase I plus the installation of 100-lb rail. This phase would permit timetable speeds to be increased to 35 mph. Total cost of Phase I and Phase II is $1,306,141. The present value of the benefits over 10 years is $898,000 with a benefit/cost ratio of 0.44.

Rehabilitation/Acquisition, Phase I - This option is a combination of Phase I rehabilitation and acquiring the rail line to preserve rail service through transfer to another operator. The benefit/cost ratio is 0.52.

Rehabilitation/Acquisition, Phase II - This option is a combination of Phase II rehabilitation and acquiring the rail line to preserve rail service through transfer to another operator. The benefit/cost ratio is 0.45.

Conclusions

The location of Montana Secondary Highway 238, the poor condition of the rail facility on this line and competitive truck rates appear to be causing the shipper to utilize truck traffic. With the current conditions in the trucking industry, it appears unlikely that the shipper, in the short term, will return to the rail service. However, it is recommended that the line be ranked along with others in this report according to the costs and benefits of alternative projects.

MISSOULA TO DARBY
Burlington Northern Railroad

This 65.9 mile branch line is located in Missoula and Ravalli Counties and extends from Missoula south to Darby as illustrated in Figure 5-9. The majority of the traffic on the line is lumber and wood products.

The status and issues concerning this line are summarized:

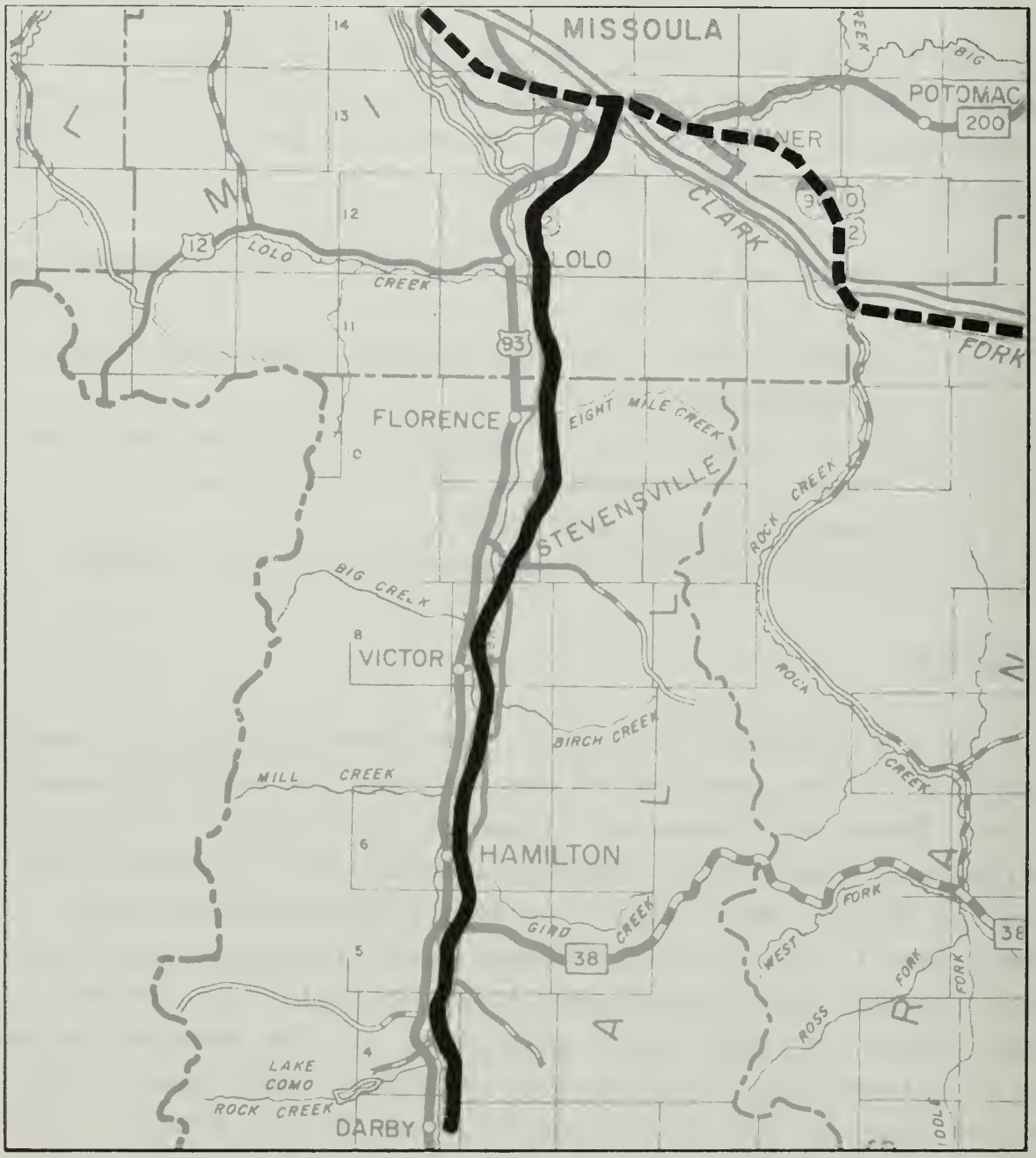
- Light density line which has not been identified for abandonment.
- Truck competition in the area has created low truck rates, causing previous rail users to switch to trucks for transportation.
- Lumber industry is depressed due to the economy.

Rail Use

Of the fourteen rail users interviewed for the 1982 Rail Plan, only seven continue to use rail service on this branch line. These rail users are listed in Table 5-9.1. The major shippers are two lumber companies located at the end of the line in Darby. These companies ship 15-20% of their total board feet by rail due to customer specification. The minor users on the line receive fertilizer and bulk feed and ship feed grain. Two additional rail users are the vermiculite mine in Victor and the fluorspar mine in Darby. Both mining operations rely on 100% rail transportation to move the ore. The vermiculite mine has been closed since 1979 and is for sale. The mine's operators shipped 100 carloads in 1977 and 83 carloads in 1978. The fluorspar mine was closed in 1983 but shipped 7,000 tons of ore in 1984 for a total of 99 carloads.

MISSOULA TO DARBY

RAILROAD: BURLINGTON NORTHERN
LENGTH: 65.9 MILES
COUNTIES: MISSOULA, RAVALLI
STATUS: LIGHT DENSITY LINE



SUBJECT LINE

ALL OTHER LINES

FIGURE 5-9

TABLE 5-9.1
RAILROAD USERS
Missoula to Darby

NAME	STATION	SIDING(1)	COMMODITY
Farmers Exchange/ Cenex	Stevensville	P	Chemicals
Bitterroot Farm and Building Supply	Stevensville	P	Chemicals
Agriculture West	Hamilton	P	Chemicals
Lake Milling Inc.	Hamilton	P	Farm Products
Champion International	Darby	P	Wood Products
Stolze Lumber	Darby	P	Wood Products
Darby Spar, LTD.	Darby	P	Nonmetallic Minerals

(1) P - Private Or Leased Siding On Premises
T - Team Track

SOURCE: Burlington Northern Railroad
Montana Department of Commerce

The market for this fluorspar is tied to the automobile industry and is unpredictable. Table 5-9.2 shows rail use statistics for this line.

Rail Service

This line connects with the main line at Missoula and is served once a week. The timetable speed is 25 or 30 mph, depending on the location.

Table 5-9.3 provides an estimate of the revenues and costs attributable to the line. The railroad received revenues of $914,292. On-branch costs (including opportunity costs) were approximately $750,000, and on-branch costs totaled $181,000. The line produced a loss in 1983 of $17,332.

Highways

Federal Aid Primary Highway 7 parallels the line for its entire length. Table 5-9.4 lists the distances from stations on the Missoula - Darby line to the nearest BNRR station at Missoula.

TABLE 5-9.4
DISTANCE TO SELECTED RAILROAD STATIONS
Missoula to Darby

TOWN	RAIL STATION	RAILROAD	DISTANCE (Miles)
Stevensville	Missoula	BN	29.0
Hamilton	Missoula	BN	49.0
Darby	Missoula	BN	65.9

SOURCE: Montana Department of Commerce

Rail Inventory and Condition

The results of a line inspection are shown in Table 5-9.5.

TABLE 5-9.2

RAILROAD USE STATISTICS - 1983

Missoula to Darby

	CARLOADS		TONS		
STATION	NUMBER	PERCENT	NUMBER	PERCENT	COMMODITY
			Originating		
Hamilton	3	1.0	300	1.7	Grain
Darby	183	66.0	9,700	55.8	Wood Products
Darby (1)	49	17.7	3,500	20.1	Nonmetallic Minerals
			Terminating		
Stevensville	16	5.7	1,600	9.2	Dry Fert.
Hamilton	20	7.2	2,000	11.5	Dry Fert.
Hamilton	6	2.2	270	1.5	Grain
TOTAL	227	100.0	17,370	100.0	

1983 Statistical Summary

Length: 65.9 Miles
Carloads Per Week: 5.32
Carloads Per Mile: 4.20
Revenue: $912,292

(1) These Figures Represent A Two-year Average

SOURCE: Montana Department of Commerce

TABLE 5-9.3

ESTIMATED REVENUES AND COSTS

Missoula to Darby

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On-Branch	$ 914,292
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$ 502,593
a. Maintenance of Way and Structures (Normalized)	378,002
b. Transportation	68,183
c. Maintenance of Equipment	56,408
3. Off-Branch Costs	181,381
4. Total Avoidable Costs (Line 2 + Line 3)	$ 683,974
5. Avoidable Loss from Operations (Line 1 - Line 4)	$ (230,318)(1)
6. Net Liquidation (Line 6a + Line 6b)	1,146,528
a. Materials	946,851
b. Land	199,677
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	247,650
9. Total Avoidable Loss (Line 5 + Line 8)	$ 17,332

(1) Parenthesis Indicates Gain

SOURCE: Montana Department of Commerce

TABLE 5-9.5

LINE FACILITIES CONDITION

Missoula to Darby

Mileposts	- 0.0 - 65.9
Rail	- 85-lb and 90-lb rail throughout line, all in fair shape.
Ties	- Treated mixed hardwoods and softwoods, generally in fair condition
Tie Plates and Rail Anchors	- Fully plated with single shoulder tie plates; varying number of rail anchors, very few locations where rail is running due to insufficient anchors.
Ballast	- Cinders and dirt with scattered locations where crushed rock has been dumped to smooth rough spots.
Bridges	- Fifty (50) bridges, all that were observed appeared to be in good condition.
Road Crossings	- Thirty-nine (39); fifteen (15) paved, twenty-four (24) unpaved.
Roadbed/ Ditching	- Roadbed is generally adequate, side drainage fairly good with no blockages noted.
Vegetation	- Scattered locations of weeds and grass, but generally in good condition.

Timetable
Speed - 25 mph, except milepost 0.0 - 11.0 and milepost 47 to Darby 30 mph.

Weight
Restrictions - 263,000 lb gross weight.

Net
Liquidation - $964,851 (track material), $199,677 (land)

SOURCE: Montana Department of Commerce

The line appears to be in fair to good condition.

Rehabilitation Costs

Table 5-9.6 lists the labor and materials necessary to rehabilitate this line to a stable long term operating condition.

TABLE 5-9.6
REHABILITATION COST ESTIMATE
Missoula to Darby

Crossties, New (400/mile x 65.9 miles) @ $18	$ 474,480
Spikes, New (1,600/mile x 65.9 miles) @ $ .36	37,958
Ballast (900 cu yd/mile x 65.9 miles) @ $3.60	213,516
Unload Material, 65.9 miles @ $2,000	131,800
Timber and Surface, 65.9 miles @ $6,600	434,940
Work Road Crossings, 43 @ $2,000	86,000
Subtotal	$1,378,694
Less Value of Material Released	---
Total Rehabilitation Cost	$1,378,694

SOURCE: Montana Department of Commerce

Effects of Abandonment

Railroad - Due to the increased use of trucks, traffic on this line has decreased significantly from the last time this line was surveyed in 1980. The economically depressed state of the Montana wood products industry has added to the decrease in traffic levels. This line was operated at a loss of $17,332 in 1983, and abandonment of the line would save the railroad the on-branch costs of $750,243.

Rail Users - If rail service were discontinued, the wood products shippers would most likely utilize motor carriers to transport commodities to Missoula and then ship by rail to

accommodate the customers' specified rail shipments. Rail users that ship fertilizer and grain would be expected to ship/receive entirely by truck or transload commodities at Missoula. The fluorspar mine at Darby could not operate without rail service. The estimated annual truck costs resulting from lost service are $145,499.

Highways - Table 5-9.7 lists the expected increase in truck traffic on Federal Aid Primary highway 7 that would result from branch line abandonment. Increases of average daily truck traffic over existing levels range from 0.2 percent to 0.3 percent. The annual estimated highway impact cost resulting from rail abandonment is $111,424.

TABLE 5-9.7
AREA HIGHWAY IMPACT ESTIMATES

			AVERAGE DAILY TRUCK TRAFFIC		
HIGHWAY	SECTION	MILEAGE	EXISTING	INCREASE	% INCREASE
FAP-7	Darby-Hamilton	18	406	1.1	0.3
FAP-7	Hamilton-Stevensville	21	418	1.3	0.3
FAP-7	Stevensville-Jct/FAP-93	17	430	1.5	0.3
FAP-7	Jct/FAP-93-Missoula	11	766	1.4	0.2

Total Estimated Annual Highway Impact Cost: $111,424

SOURCE: Montana Department of Highways
Montana Department of Commerce

Alternatives Evaluated

The evaluation results of the rehabilitation and acquisition/rehabilitation alternatives are summarized in Tables 5-9.8 and 5-9.9.

TABLE 5-9.8

DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS

Missoula to Darby

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
	Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$ -750,243
Truck/User	Annual Line Haul and Handling Cost	145,499
Other	Net Salvage Value of Rehabilitation Materials	-0-
	Annual Highway Impact Cost	111,424
	Acquisition/Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$ -750,243
Truck/User	Annual Line Haul and Handling Cost	145,499
Other	Acquisition Cost (Land and Materials)	-1,146,528
	Net Salvage Value of Rehabilitation Materials	-0-
	Liquidation Benefits	1,146,528

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Montana Department of Commerce

TABLE 5-9.9

BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS

Missoula to Darby

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE(1) Benefit	Cost (000's)	Net	BENEFIT/ COST RATIO
Rehabilitation	$1,378.7	$1,910.3	$6,957.0	$-5,046.7	0.27
Acquisition/ Rehabilitation	$2,525.2	$2,715.9	$8,103.5	$-5,387.7	0.34

(1) Discount Rate - 4 Percent
Project Life - 10 Years

SOURCE: Montana Department of Commerce

Rehabilitation - The cost of this alternative is approximately $1.3 million. The net present value of benefits over a ten year period is $1.9 million, and the present value of costs is $6.9 million, resulting in a benefit/cost ratio of 0.27.

Acquisition/Rehabilitation - Approximately $2.5 million would be required to implement this project. The net present value of benefits and costs over a ten year period are $2.7 million and $8.1 million, respectively. The benefit/cost ratio is 0.34. The net present value, $-5.3 million is greater than the net present value of the rehabilitation alternative due to the acquisition cost.

Conclusions

Without rail service, the shippers of wood products would probably be adversely affected in the long run due to their inability to fill customer-specified rail deliveries (the wood products could be transloaded from truck to rail at Missoula, but at added expense). It is not clear if other shippers on the line would experience higher transportation costs.

Nevertheless, the wood products industry is vital to the local economy, and a resurgence in the demand for wood products could result in increased rail traffic. As a result, it is recommended that this line be considered for project funds if it ranks high in relation to other lines studied in this report.

MOCCASIN TO GERALDINE
Central Montana Rail

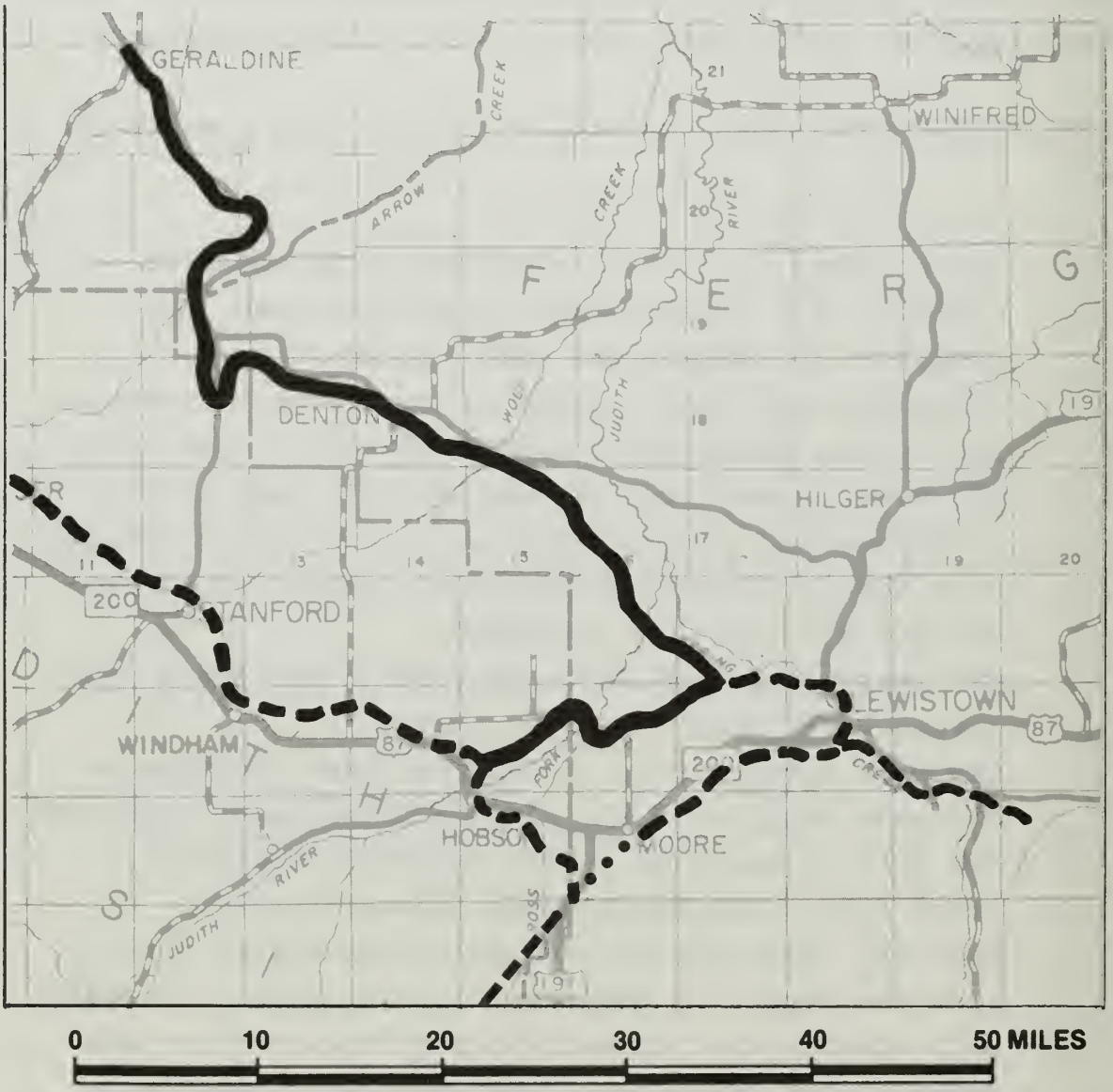
This 87.5 mile branchline, illustrated in Figure 5-10, extends from Geraldine in a southeast direction to Spring Creek Junction and west to Moccasin, which is on the BNRR mainline.

The status and issues concerning the line are summarized below:

- In September of 1984, the Montana Department of Commerce, The Burlington Northern Railroad, and a committee of farmers and grain shippers from Geraldine and Denton signed an agreement to restore service on the branchline as a shortline operation. The newly formed Central Montana Rail Association (CMR) has been incorporated as a nonprofit organization and will become a certified common carrier to operate the shortline railroad.
- CMR leases from the State of Montana the track from Spring Creek Junction to Geraldine.
- CMR will operate over the Spring Creek Junction to Moccasin section of the line to interchange cars with the BNRR at Moccasin. BNRR owns this section of track and is responsible for its maintenance. However, after the Moore-Sipple connection is built (see the Sipple to Lewistown line analysis) the BNRR will abandon the Moccasin-Spring Creek section and donate it to the state. The state will then lease this section to CMR.
- Various construction and rehabilitation projects for this line have been planned or are currently underway. These will be described later in this analysis.
- It is anticipated that grain will be moved out of the area in 1985.

MOCCASIN TO SPRING CREEK TO GERALDINE

RAILROAD: CENTRAL MONTANA RAIL
LENGTH: 86.8 MILES
COUNTIES: FERGUS, CHOUTEAU, JUDITH BASIN
STATUS: LIGHT DENSITY LINE



SUBJECT LINE
ALL OTHER LINES
PROPOSED FOR 1985 CONSTRUCTION SEASON

FIGURE 5-10

Rail Use

The primary commodity that will be moved on this line is grain, although occasional shipments of fertilizers and machinery are also expected. Projected use statistics are found in Table 5-10.1.

Rail Service

Stations on this line will be served once a week and the timetable speed will be 25 mph.

Projected revenues and costs resulting from operations are listed in Table 5-10.2. It is expected that the line will generate $474,000 in revenue. At a 1,200 car traffic level, on-branch costs are $455,594. Off-branch costs to Central Montana Rail are zero, as all traffic will be switched to the BNRR at Moccasin. Opportunity costs are zero, as the railroad is operated by a nonprofit shippers association, and the land and track are owned by the State of Montana. This railroad is projected to operate on an essentially break-even basis (a profit of $18,406) in 1986.

Highways

As shown in Figure 5-10, this line is paralleled for most of its length by FAP 80 and 81 from Geraldine to Denton and by FAP 57 from Lewistown to Moccasin. Table 5-10.3 lists distances from stations on the branchline to alternate stations.

Rail Inventory and Condition

Table 5-10.4 lists line facilities condition from Moccasin to Spring Creek. The 77.5 pound rail is in fair condition, but the ties are in poor condition. One major bridge crosses the Judith River. CMR has trackage rights over this section to

TABLE 5-10.1

PROJECTED RAILROAD USE STATISTICS - 1986

Moccasin to Geraldine

	CARLOADS		TONS		
STATION	NUMBER	PERCENT	NUMBER	PERCENT	COMMODITY
Denton	800	67	80,000	67	Grain
Geraldine	400	33	40,000	33	Grain
Total	1,200	100	120,000	100	

1986 Statistical Summary (Projected)

Length: 87.5 Miles
Carloads Per Week: 23
Carloads Per Mile: 13.7
Revenue: $474,000

SOURCE: Montana Department of Commerce

TABLE 5-10.2
ESTIMATED REVENUES AND COSTS
Moccasin to Geraldine

REVENUES ATTRIBUTABLE	YEAR 1986
1. Freight Originated And/Or Terminated On- Branch	$ 474,000
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$ 455,594
a. Maintenance of Way & Structures (Normalized)	195,339
b. Transportation	122,109
c. Maintenance of Equipment	138,146
3. Off-Branch Costs	0
4. Total Avoidable Costs (Line 2 + Line 3)	$ 455,594
5. Avoidable Loss from Operations (Line 1 - Line 4)	$ (18,406)(1)
6. Net Liquidation (Line 6a + Line 6b)	$2,870,038
a. Materials (2)	2,829,546
b. Land	240,000
7. Rate of Return	0%
8. Opportunity Cost Foregone (Line 6 x Line 7)	0
9. Total Avoidable Loss (Line 5 + Line 8)	$ (18,406)(1)

(1) Parenthesis Indicates Gain
(2) Includes Rehabilitation Materials

SOURCE: Montana Department of Commerce

TABLE 5-10.3
DISTANCE TO SELECTED RAILROAD STATIONS
Moccasin to Geraldine

TOWN	RAIL STATION	RAILROAD	DISTANCE (Miles)
Geraldine	Fort Benton	BN	27
	Stanford	BN	38
Denton	Stanford	BN	30
	Lewistown	BN	38

SOURCE: Montana Department of Commerce

TABLE 5-10.4
LINE FACILITIES CONDITION
Spring Creek Jct to Moccasin

Mileposts	- 21.4 - 0.0
Rail	- 77.5-lb rail in fair condition.
Ties	- Treated and untreated mixed hardwoods and softwoods, generally in poor condition.
Tie Plates and Rail Anchors	- Some of the larger hardwood ties are unplated; others with single shoulder plates. Rail running due to inadequate numbers of anchors.
Ballast	- Pit run gravel and dirt with scattered locations where poor subgrade crushed rock has been dumped.
Bridges	- Five (5) bridges; one (1) is major structure crossing Judith River.
Road Crossings	- Approximately ten (10) unpaved crossings.
Roadbed/ Ditching	- Scattered locations where roadbed is unstable due to soil conditions, some areas of insufficient drainage where unstable soil has blocked ditches.
Vegetation	- Scattered locations of weeds and grass.
Timetable Speed	- 25 mph

Weight Restrictions	- 263,000 lb gross weight.
Net Liquidation	- $751,790 (materials), $79,992 (land)

SOURCE: Montana Department of Commerce

deliver cars to the mainline at Moccasin.

Conditions on the segment from Spring Creek to Geraldine are listed in Table 5-10.5. This line is generally in poor to fair condition, but major rehabilitation has been planned or is presently taking place.

Rehabilitation and Equipment Costs

An eight phase operations and rehabilitation project has been proposed for the segment between Spring Creek and Geraldine. The cost of this project is $9.4 million as shown in Table 5-10.6.

Not all of the actions proposed in Table 6 are eligible for federal funding. Phases III, IV, V, VI, and VIII are eligible and detailed cost estimates for these projects are detailed in Table 5-10.7.

The bridge over Spring Creek is a 50 year-old wooden structure which is 85 feet high and 1,392 feet long. It is not in good condition and should be repaired or replaced within the next five to ten years. According to BNRR, total redesign and new construction of the bridge would cost $6.0 million dollars. An alternative to a new bridge would be to rehabilitate the existing structure over a five-year period at a cost of $3,030,000.

It would be possible to avoid operations over the bridge by building a wye at Spring Creek Junction connecting the Geraldine and Moccasin sections of the line. The cost to construct this wye is estimated at $750,000.

In the near future, it will be necessary to rehabilitate the line between Moccasin and Spring Creek Junction. To stabilize thie line for the long terms, the 77.5# rail and

TABLE 5-10.5
LINE FACILITIES CONDITION
Spring Creek to Geraldine

Milepost	- 71.0 - 136.3
Rail	- 57.4 miles of 75-lb rail, 7.8 miles of 90-lb rail, and 0.7 miles of 100-lb rail, all in fair to good condition.
Ties	- Treated softwoods, generally in poor condition.
Tie Plates and Rail Anchors	- Fully plated single shoulder tie plates. Rail anchors are generally installed in inadequate numbers allowing rail to run.
Ballast	- Pit run gravel with scattered locations where crushed rock has been dumped and track not surfaced.
Bridges	- Thirty-three (33) bridges; the smaller timber structures are in generally good condition, and the larger steel structures are experiencing some movement problems, especially bridge 1018.
Road Crossings	- Twenty-one (21) road crossings.
Roadbed/ Ditching	- Entire roadbed unstable because of soil conditions. Due to moving soil, ditches and cuts are full and require ditching. Arrow Creek Hill between milepost 107 and milepost 117 requires extensive work due to moving soils.

Tunnel	- One (1) tunnel on the line 2,014 ft long. Drainage at both ends very poor; hole in tunnel roof at east end, and spalling concrete on side at west end.
Vegetation	- Entire line is overgrown with weeds and grass.
Timetable Speed	- Out of service.
Net Liquidation	- $751,790 (materials), $240,000 (land)

SOURCE: Montana Department of Commerce

TABLE 5-10.6

REHABILITATION AND OPERATING EQUIPMENT COST ESTIMATES

Spring Creek to Geraldine

PHASE	PROJECT DESCRIPTION	COST	START	COMPLETION
I	Preliminary Dirt Work and Surfacing	$ 373,300	10/01/84	5/01/85
II	Purchase Operating Equipment	230,330	10/01/84	10/01/85
III	Indian Creek Bridge Repair			
	A. Support and Alignment	588,950	10/01/84	4/30/85
	B. Deck	911,050	4/30/85	10/01/85
IV	Tunnel Rehabilitation	150,000	4/01/85	10/30/85
V	Rail Relay MP 107 to MP 111	187,751	7/01/85	10/30/85
VI	Rail Rehab MP 71 to MP 137			
	A. Tie Renewal and Anchors	2,456,517		
	B. Ballast Improvement	661,031		
	C. Road Crossings	35,590		
	D. Bridges	37,126		
	E. Roadway	385,850		
VII	Shop Complex	356,700	6/01/85	12/31/85
VIII	Rail Relay Intermittent Between MP 71 to MP 137	3,024,197	4/01/86	12/31/86
TOTAL		$9,398,392		

SOURCE: Montana Department of Commerce

TABLE 5-10.7
DETAILED REHABILITATION COST ESTIMATES
POTENTIAL FEDERAL PARTICIPATION PROJECTS
Spring Creek to Geraldine

Phase III. Indian Creek Bridge Repair

B. Bridge Deck

	Material	Total
Construction Monitor	$ 24,050	
Reinforced Concrete Pan Replacement	500,000	
Approach Slope Stabilization	387,000	
	$911,050	$911,050

Phase IV. Tunnel Rehabilitation

	Material	Total
Drainage	$ 36,000	
Timber and Surface Track Through Tunnel	90,000	
Repair Concrete Walls	24,000	
	$150,000	$150,000

Phase V. Rail Relay MP 107-111

Replace Curve Worn Rail on Arrow Creek Hill

	Labor	Material	Total
Rail, 100-lb Relay (176 ton/mi x 1.65 mi) @ $350		$101,640	
Joints, 100-lb S.H. (270/mi x 1.65 mi) @ $8		3,564	

Phase V. Rail Relay MP 107-111 - Continued

Replace Curve Worn Rail on Arrow Creek Hill

	Labor	Material	Total
Bolts and Nut Locks (1080/mi x 1.65 mi) @ $2		3,564	
Tie Plates, S.H. (6500/mi x 1.65 mi) @ $2.75		29,493	
Rail Anchors, New (4320/mi x 1.65 mi) @ $1.15		8,197	
Spikes, New (13000/mi x 1.65 mi) @ $ .36		7,722	
Unload Materials	$ 1,808		
Lay Rail	21,524		
Equipment Rental		2,913	
Material Additives		15,709	
Business Expense		2,333	
Labor Additives		3,499	
Small Tools and Supplies		5,772	
Fuel		1,046	
	$23,332	$185,452	$208,784
Less Value of Material Released		21,033	
	$23,332	$164,419	$187,751

Phase VI. Rail Rehabilitation MP 71 to MP 137

A. Tie Renewal & Anchors

	Labor	Material	Total
Replace Ties and Rail Anchors	$374,400		
60,000 Cross Ties #4		$1,200,000	
Switch Ties (5 sets)		8,000	
264,000 Track Spikes 9/16 x 5 1/2		95,040	

Phase VI. Rail Rehabilitation MP 71 to MP 137 - Continued

A. Tie Renewal & Anchors

	Labor	Material	Total
10,560 Tie Plates		29,040	
42,240 Rail Anchors		48,576	
Unload Materials	18,000	19,125	
Equipment Rental		257,720	
Material Additives		165,750	
Business Expense		65,650	
Labor Additive	58,860		
Small Tools and Supplies		75,556	
Fuel		40,800	
	$451,260	$2,005,257	$2,456,517

B. Ballast Improvement

	Labor	Material	Total
Crushed Ballast 84,782 c.y.		$390,000	
Work Train	$12,000	14,250	
Equipment Rental		51,090	
Place Ballast (Line & Tamp)	26,000		
Labor Additive	5,700		
Small Tools and Supplies		7,700	
Business Expense		27,225	
Material Additive		73,539	
Fuel		53,527	
	$43,700	$617,331	$661,031

C. Crossing Work

	Labor	Material	Total
Engineering	$ 5,000		
Remove & Replace Crossings 14.75 MBM	10,500	$ 5,162	

C. Crossing Work - Continued

	Labor	Material	Total
Shims 3.0 MBM		1,050	
Spikes 1135 ea.		2,270	
Asphalt Paving 50 Tons		1,475	
Scrap Rail (Flange and Header Rail)		1,185	
Labor Additive	2,325		
Small Tools and Supplies		446	
Business Expense		1,550	
Equipment Rental		1,575	
Material Additive		2,207	
Fuel		845	
	$17,825	$17,765	$35,590

D. Bridges

	Labor	Material	Total
Install Jack Stringers (98 spans)	$19,600	$ 5,650	
Equipment Rental		3,675	
Material Additives		1,399	
Business Expense		2,940	
Labor Additive	2,940		
Small Tools and Supplies		547	
Fuel		375	
	$22,540	$14,586	$37,126

E. Roadway

	Labor	Material	Total
Extend Culverts		$ 40,000	
Ditching		81,850	
Rebuild and Widen Fills 88,000 c.y.		264,000	
		$385,850	$385,850

Phase VIII. Spot Rail Relay Spring Creek Jct to Geraldine (66 Miles)

Replace 75 Pound Rail with 100 Pound Rail (24.5 Miles)

	Labor	Material	Total
Rail, 100-lb Realy (176 ton/mi x 24.5 mi) @ $350		$1,509,200	
Joints, 100-lb S.H. (270/mi x 24.5 mi) @ $8		52,920	
Bolts and Nut Locks (1080/mi x 24.5 mi) @ $2		52,920	
Tie Plates, S.H. (6500/mi x 24.5 mi) @ $2.75		437,937	
Rain Anchors, New (4320/mi x 24.5 mi) @ $1.15		121,716	
Spikes, New (13000/mi x 24.5 mi) @ $ .36		114,660	
Turnouts, $10, 100-lbs S.H. 12 @ $10,000		120,000	
Unload Materials	$ 30,832	37,683	
Lay Rail	367,044		
Install Turnouts	33,810	2,190	
Equipment Rental		49,685	
Material Additives		249,891	
Business Expense		43,169	
Labor Additives		64,753	
Small Tools and Supplies		98,428	
Fuel		17,857	
	$431,686	$2,973,009	$3,404,695
Less Value of Material Released		380,498	
	$431,686	$2,592,511	$3,024,197

SOURCE: Montana Department of Commerce

1,000 ties per mile should be replaced. This rehabilitation could be completed at an estimated cost of $2.7 million. Table 8 provides details.

Effects of Abandonment

Railroad - This line will be run by a nonprofit shippers' association. Any profits made by operation of this line are scheduled to be reinvested in plant and equipment.

Rail Users - This 66 mile line serves a large and important grain producing area in Choteau, Fergus, and Judith Basin counties. The most dramatic effects of abandonment would be felt in the communities of Geraldine and Denton. An estimated 8,000,000 bushels of wheat and barley are available annually for rail and truck transportation. Most of this grain is transported to ports on the lower Columbia River and Puget Sound for export.

In a three year period after an abandonment, an estimated 37 jobs would be lost. These 37 jobs indirectly support another 50 jobs in support businesses and government, raising the total to 87 jobs and generating an income loss of $1,554,000.[1] Without rail service, the area would also suffer a population loss. Over a three year period, an estimated 168 persons would leave the Denton-Geraldine area. These numbers are significant when the size of the affected communities is considered. Geraldine and Denton have 305 and 356 residents, respectively.

The loss of rail service will increase transportation costs to the producer. At projected 1986 traffic levels, it is

[1] Mountain International, Inc. "The Proposed Abandonment of the Lewistown/Geraldine Railroad Branchline: A Community Profile and Impact Assessment for Choteau, Fergus, and Judith Basin counties, Montana", Helena, Montana, July 1983. pp. 54-57.

TABLE 5-10.8

REHABILITATION COST ESTIMATE

Spring Creek Jct to Moccasin

Ditching and Roadbed Repair, 7 miles @ $1,000	$ 7,000
Rail, 100-lb Relay (176 tons/mile x 21.5 miles) @ $300	1,135,200
Joints, 100-lb S.H. (320/mile x 21.5 miles) @ $9.32	64,122
Bolts, Locks, and Nuts, New (1,280/mile x 21.5 miles) @ $2	55,040
Tie Plates, S.H. (6,000/mile x 21.5 miles) @ $2.75	354,750
Spikes, New (12,000/mile x 21.5 miles) @ $ .36	92,880
Rail Anchors, New (3,240/mile x 21.5 miles) @ $1.15	80,109
Crossties, New (1,000/mile x 21.5 miles) @ $18	387,000
Ballast (900 cu yd/mile x 21.5 miles) @ $3.60	69,660
Unload Material, 21.5 miles @ $3,000	64,500
Lay Rail, 21.5 miles @ $15,000	322,500
Timber and Surface, 21.5 miles @ $10,500	225,750
Work Road Crossings, 11 @ $2,000	22,000
Judith River Bridge	75,000
Subtotal	$2,955,511
Less Value of Materials Released	227,040
Total Rehabilitation Cost	$2,728,471

SOURCE: Montana Department of Commerce

estimated that grain will be trucked to facilities in Fort Benton and Stanford at an annual cost of at least $504,907.

Highways - An abandonment will require producers to transport their grain by truck, resulting in an increased rate of highway deterioration. The highways in the area are not designed to withstand a high volume of heavy commercial truck traffic. Preliminary estimates indicate that forty-million dollars must be spent to repair roads in the Denton-Geraldine area over a five to ten year period. The state does not have money budgeted to engage in these large scale repairs until 1988. Table 5-10.9 lists the expected increase in area truck traffic. Increases in average daily truck traffic range from 5.8 percent to 43.2 percent. An annual estimated highway impact cost of $4,701,244 is attributed to increased truck traffic.

Alternatives Evaluated

The Spring Creek Junction to Geraldine section of this line was acquired by the State of Montana in 1984. The Moccasin-Spring Creek section of this line is presently owned by the BNRR, and the railroad is responsible for its maintenance.

The Burlington Northern currently plans to abandon the Moccasin line upon completion of a new connection from Moore to Sipple (see the Sipple to Lewistown line analysis). BNRR has agreed to donate the Moccasin to Spring Creek line segment to the state to perpetuate CMR operations into Moccasin. Following this donation a $2.7 million Moccasin to Spring Creek rehabilitation project will be necessary.

The following alternatives describe: a) rehabilitation of the line from Spring Creek Junction to Geraldine; b) rehabilitation from Geraldine to Spring Creek Junction and construction of a wye at Spring Creek Junction; c) rehabilitation from Moccasin

TABLE 5-10.9

AREA HIGHWAY IMPACT ESTIMATES

Spring Creek Junction to Geraldine

HIGHWAY	SECTION	MILEAGE	AVERAGE DAILY TRUCK TRAFFIC		
			EXISTING	INCREASE	% INCREASE
FAP-80	Fort Benton to Geraldine	27	198	17.1	8.6
FAP-80	Geraldine to Jct/FAP-81	21	50	7.9	15.8
FAP-80	Jct/FAP-81 to Stanford	17	204	12.0	5.8
FAP-81	Denton to Jct/FAP-80	13	46	19.9	43.2

Total Estimated Annual Highway Impact Cost: $4,701,244

SOURCE: Montana Department of Highways
Montana Department of Commerce

to Spring Creek Junction; and d) rehabilitation of the entire line from Moccasin to Geraldine and construction of the wye to Spring Creek Junction. Tables 5-10.10 and 5-10.11 provide analysis results.

Rehabilitation, Geraldine to Spring Creek Junction - The proposed rehabilitation for this segment will be completed in eight phases, which were explained in Tables 5-10.6 and 5-10.7. This level of rehabilitation will stabilize the segment for the long term if a normalized maintenance schedule is implemented.

The project cost for this alternative is $9.4 million. The present value of costs over a 10 year period is $12.7 million and the present value of benefits is $40.6 million, most of which can be attributed to highway impact costs. The benefit cost ratio is 3.18 and the net present value is $27.9 million.

Rehabilitation, Geraldine to Spring Creek Junction/Wye Construction - This alternative is the same as the one described above with the addition of a wye construction project at Spring Creek Junction.

The project cost for this alternative is $10.1 million, allowing $750,000 for the construction of the wye in the fifth year of the project. The net present value of benefits is $43.2 million, which includes the total $3,030,000 cost of rehabilitating the Spring Creek Bridge over a five-year period. The benefit cost ratio is 3.23 and the net present value is $29.8 million. This benefit cost ratio is higher than the rehabilitation alternative due to the cost savings accumulated by construction of the wye versus bridge rehabilitation.

Rehabilitation, Moccasin to Spring Creek Junction - The project cost for this alternative is $2.7 million. The net present value of benefits over a ten-year period is $39.4

TABLE 5-10.10

DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS

Moccasin to Geraldine

TYPE	DESCRIPTION	BENEFIT
	Rehabilitation, Geraldine to Spring Creek Junction Alternative	
Railroad	Annual Cost Savings On-Branch	$ -455,594
Truck/User	Annual Line Haul and Handling Cost	504,907
Other	Net Salvage Value of Rehabilitation Materials	2,829,546
	Annual Highway Impact Cost	4,701,244
	Rehabilitation, Geraldine to Spring Creek Junction/Wye Construction Alternative	
Railroad	Annual Cost Savings On-Branch	$ -455,594
Truck/User	Annual Line Haul and Handling Cost	504,907
Other	Wye Construction Cost	-750,000
	Net Salvage Value of Rehabilitation Materials	3,198,046
	Annual Highway Impact Cost	4,701,244
	Bridge Rehabilitation Benefits	3,030,000
	Rehabilitation, Moccasin to Spring Creek Junction Alternative	
Railroad	Annual Cost Savings On-Branch	$ -455,594
Truck/User	Annual Line Haul and Handling Cost	504,907

Rehabilitation, Moccasin to Spring Creek Junction Alternative - Continued

Other	Net Salvage Value of Rehabilitation Materials	1,048,535
	Annual Highway Impact Cost	4,701,244

Rehabilitation, Moccasin to Geraldine/Wye Construction Alternative

Railroad	Annual Cost Savings On-Branch	$ -455,594
Truck/User	Annual Line Haul and Handling Cost	504,907
Other	Wye Construction Cost	-750,000
	Net Salvage Value of Rehabilitation Materials	4,246,581
	Annual Highway Impact Cost	4,701,244
	Bridge Rehabilitation Benefits	3,030,000

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Montana Department of Commerce

TABLE 5-10.11

BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS

Moccasin to Geraldine

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE(1) BENEFIT	COST	NET	BENEFIT /COST RATIO
Rehabilitation, Geraldine to Spring Creek Junction	$9,398.3	$40,697.5	$12,785.9	$27,911.7	3.18
Rehabilitation, Geraldine to Spring Creek Junction/ Wye Construction	10,148.3	43,262.5	13,402.2	29,860.4	3.23
Rehabilitation, Moccasin to Spring Creek Junction	2,728.4	39,446.2	6,116.0	33,330.2	6.45
Rehabilitation, Moccasin to Geraldine/Wye Construction	12,876.8	43,999.2	16,025.8	27,973.4	2.75

(1) Discount Rate - 4 Percent
Project Life - 10 Years

SOURCE: Montana Department of Commerce

million. The benefit/cost ratio is 6.45, and the net present value is $33.3 million.

Rehabilitation, Moccasin to Geraldine/Wye Construction - The project cost for this alternative is $12.8 million, allowing $2.7 million for rehabilitation of the Moccasin to Spring Creek Junction section of the line and $750,000 for construction of the wye in the second and fifth years of the project, respectively. The net present value of benefits is $43.9 million, which includes the total $3,030,000 cost of rehabilitating the Spring Creek Bridge over a five-year period. The benefit/cost ratio is 2.75 and the net present value is $27.9 million.

Conclusion

The benefit/cost ratio for all of these projects is greater than one. Community impacts resulting from the loss of rail service are significant. Highway impacts in the area are very high and over a period of years exceed the cost of rail rehabilitation and operation many times over. Area highways are already in fair to poor condition, and without rail service this situation will rapidly worsen. This line serves a large and productive grain growing area which can supply the line with traffic for many years. It is recommended that these projects receive federal funding.

NEWLON JUNCTION TO RICHEY
Burlington Northern Railroad

This 45.4 mile branchline is in Richland and Dawson Counties as illustrated on Figure 5-11. Three stations are active and they generate mainly farm products.

The status and issues of this branchline are summarized below:

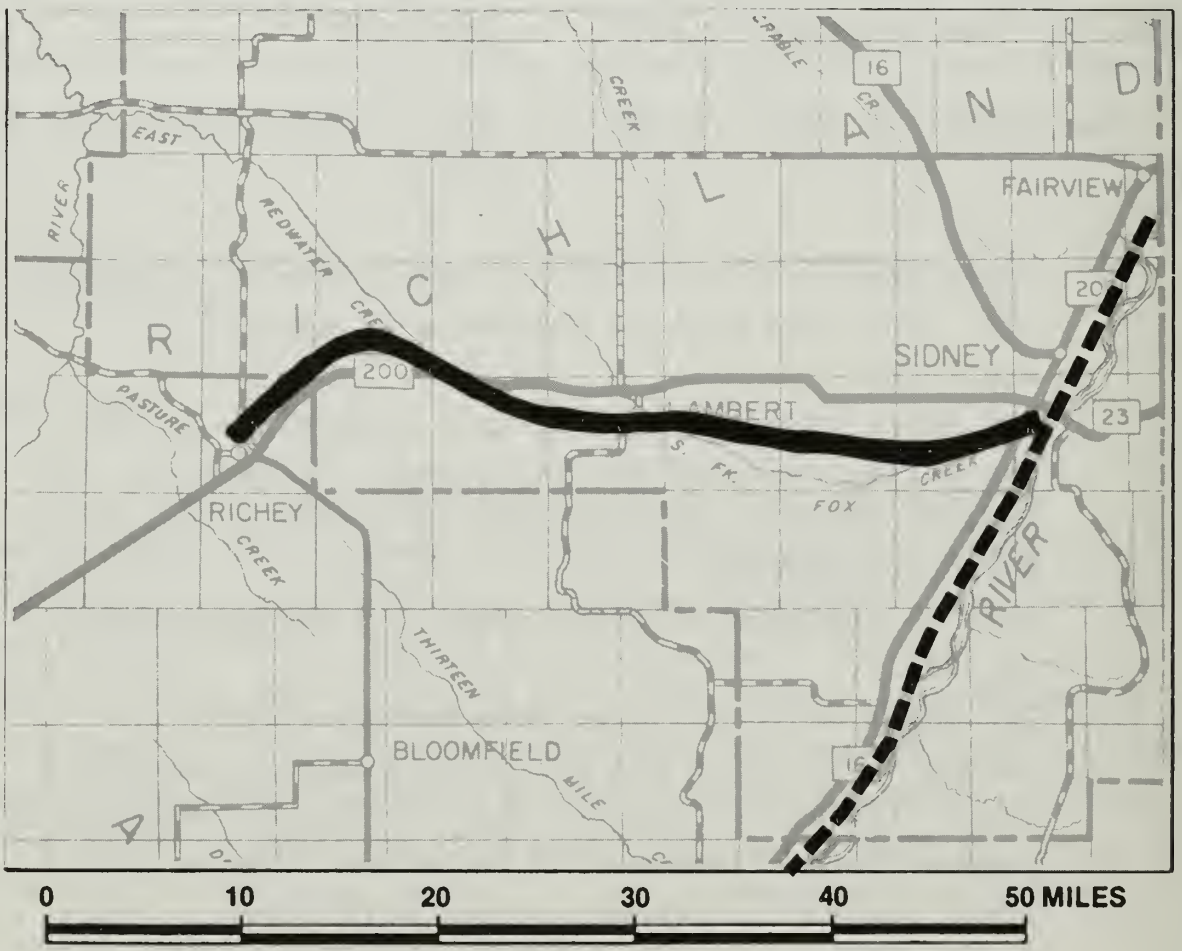
- Light density line which has been placed in Category III. The line will be abandoned in early to mid 1985.
- The major commodity off of this branchline in 1983 was barley destined for California. California feed buyers offered a special rate in 1983 for single car barley shipments.
- Only 17 carloads of wheat moved off the branchline in 1983.
- Two major grain shippers have merged with 52 car loading facilities and are functioning as satellite grain elevators. Farmers Union in Richey merged with Farmers Union Elevator in Circle and Farmers Union Grain Company in Lambert merged with Nortana Grain Co. in Sidney.
- The line is in poor condition.
- Traffic on the line has significantly decreased from 1980 levels.

Rail Use

Farm products in 1983 accounted for 75 percent of all traffic on the line and for 100 percent of outbound traffic.

NEWLON JCT. TO RICHEY

RAILROAD: BURLINGTON NORTHERN
LENGTH: 45.4 MILES
COUNTIES: RICHLAND, DAWSON
STATUS: ABANDONED



SUBJECT LINE

ALL OTHER LINES

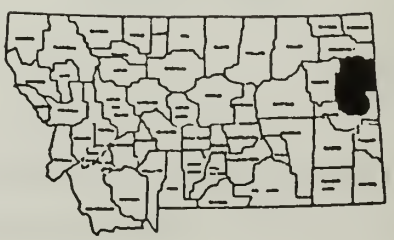


FIGURE 5-11

of the seven shippers/receivers on the line, the three shippers/receivers at Richey accounted for most (58 percent) of the line traffic. Fertilizer was the only inbound commodity on the line. The total 1983 traffic of 116 carloads was considerably lower than for other years for which data is available. Tables 5-11.1 and 5-11.2 summarize 1983 railroad use and user statistics.

Rail Service

Weekly service is provided on an as needed basis on this line according to rail users. The line connects with the BNRR's mainline just south of Sidney.

The estimated net loss on this line in 1983 is approximately $326,000 as shown in Table 5-11.3. The line generated approximately $331,000 in gross revenues. The principal on-branch cost component is the allowance for normalized maintenance.

Highways

Federal Aid Primary 51 parallels the line from Sidney to Richey and provides a route from Richey to Circle. A secondary highway, FAS 254, connects Richey with FAP 25 to Wolf Point to the northwest and with Glendive to the southeast. The highways and surface types are shown on Figure 5-11. The highway distances to other rail stations are listed in Table 5-11.4.

Rail Inventory and Condition

The inspection of this branchline revealed that the track has lightweight rail in poor condition and crossties that are up to 40% defective. In addition, there are an inadequate number of rail anchors. Finally, several locations have poor subgrade which causes problems in maintaining an adequate surface and alignment. Table 5-11.5 provides details.

TABLE 5-11.1

RAILROAD USE STATISTICS - 1983

Newlon Junction to Richey

	CARLOADS		TONS		
STATION	NUMBER	PERCENT	NUMBER	PERCENT	COMMODITY
		Originating			
Lambert	18	15.5	1,800	15.5	Grain
Enid	14	12.1	1,400	12.1	Grain
Richey	56	48.3	5,600	48.3	Grain
		Terminating			
Lambert	16	13.8	1,600	13.8	Dry Fert.
Richey	12	10.3	1,200	10.3	Dry Fert.
	116	100.0	11,600	100.0	

1983 Statistical Summary

Length: 45.4 Miles
Carloads Per Week: 2.2
Carloads Per Mile: 2.5
Revenue: $331,530

Traffic Volume History

1976	801
1977	450
1978	649
1979	865
1980	389
1983	116

SOURCE: Montana Department of Commerce
Burlington Northern Railroad

TABLE 5-11.2
RAILROAD USERS
Newlon Junction to Richey

NAME	STATION	SIDING(1)	COMMODITY
Peavey Elevator	Richey	P	Farm Products
Farmers Union Trading Assoc.	Richey	P	Farm Products
Kenry Fertilizer	Richey	P	Chemicals
Enid Grain Co.	Enid	P	Farm Products
Cenex Soil Service Center	Lambert	P	Chemicals
Farmers Union Grain	Lambert	P	Farm Products
Lambert Grain, Inc.	Lambert	P	Farm Products

(1) P - Private Or Leased Siding On Premises.
T - Team Track.

SOURCE: Montana Department of Commerce

TABLE 5-11.3

ESTIMATED REVENUES AND COSTS

Newlon Junction to Richey

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On-Branch	$331,530
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$386,486
a. Maintenance of Way and Structures (Normalized)	295,100
b. Transportation	57,008
c. Maintenance of Equipment	34,378
3. Off-Branch Costs	94,026
4. Total Avoidable Costs (Line 2 + Line 3)	$480,512
5. Avoidable Loss from Operations (Line 1 - Line 4)	$148,982
6. Net Liquidation (Line 6a + Line 6b)	$821,774
a. Materials	656,700
b. Land	165,074
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	$177,503
9. Total Avoidable Loss (Line 5 + Line 8)	$326,485

SOURCE: Montana Department of Commerce

TABLE 5-11.4

DISTANCE TO SELECTED RAILROAD STATIONS

Newlon Junction to Richey

TOWN	ALTERNATIVE RAIL STATION	RAILROAD	ROAD DISTANCE
Richey	Sidney	BN	46
	Glendive	BN	48
	Wolf Point	BN	51
	Circle	BN	28
Enid	Sidney	BN	29
Lambert	Sidney	BN	24

SOURCE: Montana Department of Commerce

TABLE 5-11.5

LINE FACILITIES CONDITION

Newlon Jct to Richey

Mileposts	- 15.3 - 60.7
Rail	- 23.7 miles of 77.5-lb rail and 21.7 miles of 80-lb rail, except for 90-lb rail through several road crossings. Many locations have bars applied defective rail sections; most rail shows heavy wear; joints are 24-in 4-hole; bolts generally tight.
Ties	- Treated mixed hardwoods and softwoods up to 40% defective; joint ties damaged where rail is running and has skewed ties.
Tie Plates and Rail Anchors	- Single shoulder tie plates on about 75% of line; no anchors noted and rail is running and skewing joint ties.
Ballast	- Pit run gravel and dirt, scattered locations where chips have been dumped and not tamped.
Bridges	- Forty-five (45) bridges; at least three (3) will have to be worked to keep the line open.
Road Crossings	- Thirteen (13); five (5) paved, eight (8) unpaved.
Roadbed/ Ditching	- Several locations with poor subgrade creating problems in maintaining surface and alignment. Some of the larger fills have started to fail.
Vegetation	- Track generally clean, except grass and weeds in yards.

Timetable
Speed - 20 mph

Weight
Restriction - 263,000 lb gross weight.

Net
Liquidation - $656,700 (track material), $165,074 (land).

SOURCE: Montana Department of Commerce

Rehabilitation Costs

The condition of this line is insufficient to carry fully-loaded covered hoppers during the long term, and this condition is reflected in the estimated $5.5 million needed for rehabilitation. As shown the largest part of this cost is the rail, tie plates, crossties, and labor. Detailed rehabilitation estimates are shown in Table 5-11.6.

Effects of Abandonment

Railroad - At the 1983 traffic level this line operated at a $326,000 loss. The railroad would eliminate this loss and at least the on-branch component of the operating costs if they abandoned the line. The line has been placed in Category III, and abandonment in early 1985 is possible.

Rail Users

In recent years, shippers and receivers have continued to increasingly rely on trucks to move fertilizer and grain in and out of the area. Two major shippers have merged with facilities in Sidney and Circle, reducing their rail transportation needs and decreasing the line's potential traffic level. The estimated annual cost to trucks to alternate railheads is $146,987.

Highways

Table 5-11.7 lists the expected increase in truck traffic on area highways that would result from branchline abandonment. Increases of average daily truck traffic over existing levels range from 0.04 percent to 1.4 percent. An annual estimated highway impact cost of $139,726 would be attributable to increased truck traffic.

TABLE 5-11.6

REHABILITATION COST ESTIMATE

Newlon Junction to Richey

Rail, 100-lb Relay (176 tons/mile x 45.4 miles) @ $300	$2,397,120
Joints, 100-lb S.H. (320/mile x 45.4 miles) @ $9.32	135,401
Bolts, Locks and Nuts, New (1,280/mile x 45.4 miles) @ $2	116,224
Tie Plates, S.H. (6,000/mile x 45.4 miles) @ $2.75	749,100
Spikes, New (12,000/mile x 45.4 miles) @ $ .36	196,128
Rail Anchors, New (3,240/mile x 45.4 miles) @ $1.15	169,160
Crossties, New (800/mile x 45.4 miles) @ $18	653,760
Ballast (900 cu yd/mile x 45.4 miles) $ $3.60	147,096
Turnouts, #9, 100-lb S.H., 8 @ $10,000	80,000
Unload Materials, 45.4 miles @ $2,800	127,120
Lay Rail, 45.4 miles @ $15,000	681,000
Install Turnouts, 8 @ $3,000	24,000
Timber and Surface, 45.4 miles @ $9,600	435,840
Bridge Repairs, 3 @ $20,000	60,000
Work Road Crossings, 13 @ $2,000	26,000
Subtotal	$5,997,949
Less Value of Material Released	479,424
Total Rehabilitation Cost	$5,518,525

SOURCE: Montana Department of Commerce

TABLE 5-11.7

AREA HIGHWAY IMPACT ESTIMATES

Newlon Junction to Richey

HIGHWAY	SECTION	MILEAGE	AVERAGE DAILY TRUCK TRAFFIC		
			EXISTING	INCREASE	%INCREASE
FAP-51	Circle-Richey	28	36	0.5	1.4
FAP-51	Richey-Enid	15	55	0.02	0.04
FAP-51	Enid-Lambert	12	69	0.1	0.1
FAP-51	Lambert-Newlon Jct	23	69	0.4	0.6
FAS-254	Richey-Jct/FAP-20	43	34	0.1	0.4

Total Estimated Annual Highway Impact Cost: $139,726

SOURCE: Montana Department of Highways
Montana Department of Commerce

Alternatives Evaluated

Tables 5-11.8 and 5-11.9 list the results of an economic analysis of rehabilitation and acquisition/rehabilitation projects for this line.

Rehabilitation - Under this potential project, the line would be upgraded to FRA Class 2 (25 mph) and would be able to accommodate fully loaded 100-ton covered hoppers over the long term. The benefit/cost ratio, 0.30, is relatively low because of the high cost of the option.

Acquisition/Rehabilitation

Under this option, the line would be rehabilitated to the standards described above. Acquisition costs are estimated at $821,000. The benefit/cost ratio is 0.33, and the net present value is -$7.0 million.

Conclusions

Although this line is in a productive grain area, the BNRR operated the line at a loss in 1983. Traffic levels on the line have decreased dramatically since the introduction of 52 car unit train rates. Because of recent changes in the area's transportation patterns, it is not likely that traffic on the line could be increased to former levels without a change in the unit train rate structure. Therefore, it is recommended that project funds not be considered for this project unless it ranks high in relation to other projects in this report.

TABLE 5-11.8

DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS

Newlon Junction to Richey

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
	Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$ -563,989
Truck/User	Annual Line Haul and Handling Cost	46,987
Other	Annual Highway Impact Cost	139,726
	Net Salvage Value of Rehabilitation Materials	2,169,062
	Acquisition/Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$-563,989
Truck/User	Annual Line Haul and Handling Cost	46,987
Other	Acquisition Cost (Land and Track Materials)	-821,774
	Annual Highway Impact Cost	139,726
	Net Salvage Value of Rehabilitation Materials	2,169,062
	Liquidation Benefits	821,774

SOURCE: Montana Department of Commerce

TABLE 5-11.9

BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS

Newlon Junction to Richey

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE(1) BENEFIT	COST (000's)	NET	BENEFIT/ COST RATIO
Rehabilitation	$5,518.5	$2,912.2	$ 9,712.0	$-6,799.7	0.30
Acquisition/ Rehabilitation	$6,340.3	$3,489.6	$11,416.2	$-7,044.1	0.33

(1) Discount Rate - 4 Percent.
Project Life - 10 Years.

SOURCE: Montana Department of Commerce

NORTH DAKOTA STATE LINE TO WHITETAIL
Soo Line Railroad

This 56.9 mile section from the North Dakota state line to Whitetail, Montana is the only Soo Line Railroad branch in Montana. Another 82 miles of the branch are in North Dakota. The line serves five stations in Montana. Figure 5-12 illustrates the location of the line.

The following is a summary of the status and issues affecting the line:

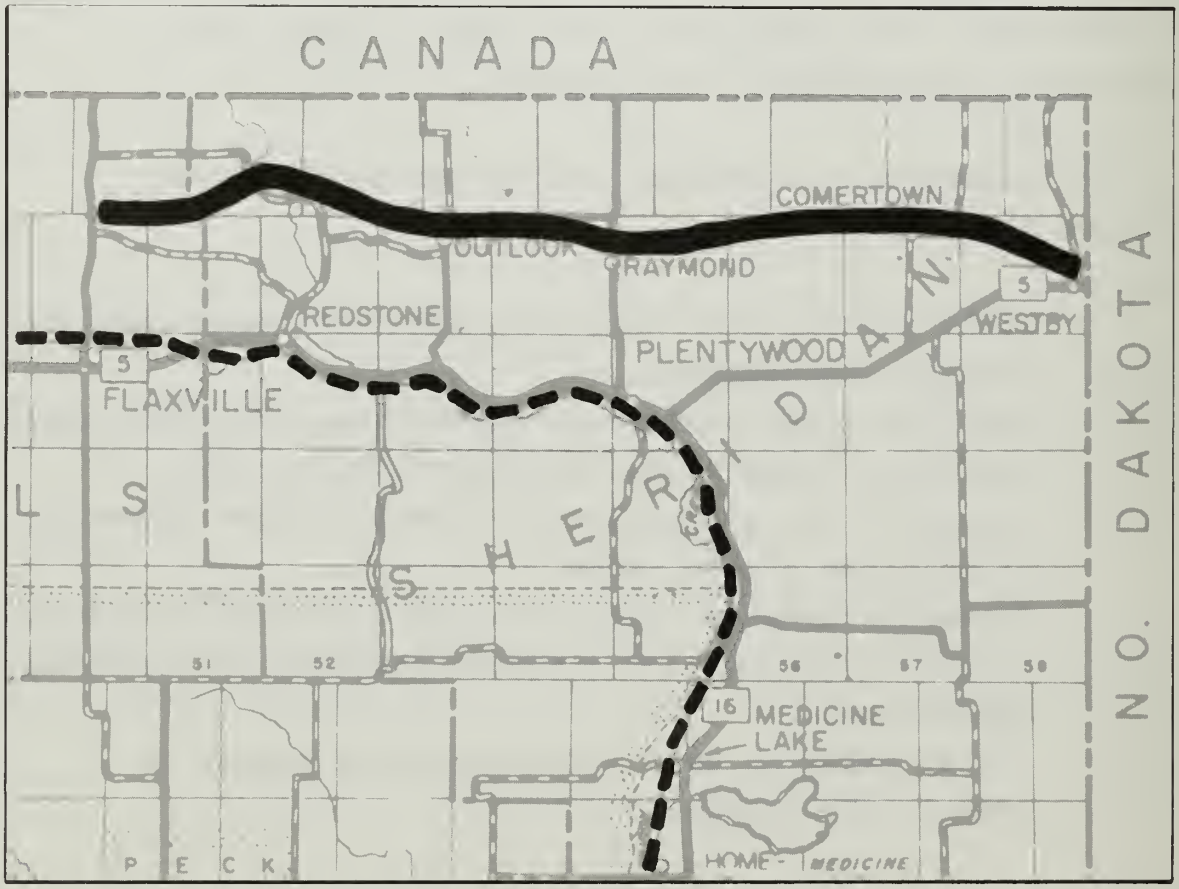
- Light density line which has not been identified for possible abandonment.
- Soo Line rates have been competitive with BNRR rates; Soo Line offers 26-car multiple origin rates.
- Elevators are independent but do take some advantage of multiple origin rates.
- Elevators compete with elevators on Bainville/Opheim branch to some extent although patterns are generally established.
- 52-car rates on BNRR mainline do not appear to affect this branch.

Rail Use

All 1983 shipments on the line were outbound carloads of farm products with Outlook being the busiest station. There are a total of six shippers using the line, and they shipped 812 carloads according to the Soo Railroad. 1983 railroad use and user statistics are summarized in Tables 5-12.1 and 5-12.2.

NORTH DAKOTA STATE LINE - WHITETAIL

RAILROAD: SOO LINE
LENGTH : 56.9 MILES
COUNTIES: DANIELS, SHERIDAN
STATUS : LIGHT DENSITY LINE



0 10 20 30

MILES

LEGEND

SUBJECT LINE

ALL OTHER LINES

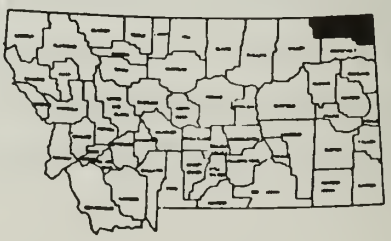


FIGURE 5-12

TABLE 5-12.1
RAILROAD USE STATISTICS - 1983
North Dakota State Line to Whitetail

STATION	CARLOADS NUMBER	CARLOADS PERCENT	TONS NUMBER	TONS PERCENT	Commodity
		Originating			
Whitetail	183	22.5	17,934	22.5	Farm Products
Daleview	7	0.9	686	0.9	Farm Products
Outlook	362	44.6	35,476	44.6	Farm Products
Raymond	11	1.3	1,078	1.3	Farm Products
Westby	249	30.7	24,402	30.7	Farm Products
		Terminating			
None					
Total Traffic	812	100.0	79,576	100.0	

1983 Statistical Summary:

Length: 56.9 Miles
Carloads Per Week: 15.6
Carloads Per Mile: 14.3
Revenue: $1,570,253

SOURCE: Montana Department of Commerce
Soo Line Railroad

TABLE 5-12.2
RAILROAD USERS
North Dakota State Line to Whitetail

NAME	STATION	SIDING(1)	COMMODITY
Whitetail Grain Co.	Whitetail	P	Farm Products
	Daleview		Farm Products
Outlook Farmers Elevator	Outlook	P	Farm Products
Hass Farms	Outlook	P	Farm Products
Shermont Electric & Grain	Raymond	P	Farm Products
Farmers Grain & Trading Co.	Westby	P	Farm Products

(1) P - Private Or Leased Siding On Premises.
T - Team Track.

SOURCE: Montana Department of Commerce.

Rail Service

This branch is the eastern portion of a 139-mile branch-line extending from Flaxton, North Dakota. Service is provided approximately once a week at an average speed of 25 mph for most of the line in Montana.

The estimated revenue and cost of service on the Montana segment is presented in Table 5-12.3. The 1983 gross revenue, provided by the Soo Railroad, was $1.5 million, and the estimated cost of annual operations was $1.0 million which includes both a normalized maintenance value and an opportunity cost of the land and materials. Therefore, this line segment made a $548,000 profit in 1983.

Highways

Federal Aid Primary 22 and FAP 30 parallel the line 7 to 8 miles to the south. Federal Aid Secondary Highways 374 and 511 and FAP 34 provide access from stations on the line to FAP 22 and FAP 30. As shown on Table 5-12.7, truck traffic volumes vary from 23 to 348 trucks per day. Other rail stations in the area are listed in Table 5-12.4 along with the highway distances.

Rail Inventory and Condition

The inspection results of this branch are detailed in Table 5-12.5. The line is constructed with lightweight rail, much of which has defective ends. The line and surface of the track are fair to poor. The ties are in fair condition. Some of the segments have poor subgrade, and the right-of-way is heavily washed in certain locations. Despite the lightweight rail and roadbed problems described in the table, the line operates at a weight limit sufficient to accommodate 100-ton covered hoppers.

TABLE 5-12.3

ESTIMATED REVENUES AND COSTS

North Dakota State Line to Whitetail(1)

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On-Branch	$ 1,570,253
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c).	$ 551,609
a. Maintenance of Way & Structures (Normalized)	355,397
b. Transportation	85,008
c. Maintenance of Equipment	111,204
3. Off-Branch Costs	224,090
4. Total Avoidable Costs (Line 2 plus Line 3)	$ 775,699
5. Avoidable Loss from Operations (Line 1 - Line 4)	$ (794,554) (2)
6. Net Liquidation (Line 6a + Line 6b)	$ 1,142,111
a. Materials	938,495
b. Land	203,616
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	$ 246,695
9. Total Avoidable Loss (Line 5 + Line 8)	$ (547,859) (2)

(1) Statistics Relate Only To Montana Operations On This Branchline.
(2) Parenthesis Indicates Gain.

SOURCE: Montana Department of Commerce

TABLE 5-12.4

DISTANCE TO SELECTED RAILROAD STATIONS

North Dakota State Line to Whitetail

TOWN	ALTERNATIVE RAIL STATION	RAILROAD	ROAD DISTANCE
Whitetail	Flaxville	BN	7
	Culbertson	BN	84
	Wolf Point	BN	73
Daleview	Flaxville	BN	10
	Culbertson	BN	87
	Wolf Point	BN	76
Outlook	Plentywood	BN	18
	Culbertson	BN	65
Raymond	Plentywood	BN	7
	Culbertson	BN	54
Westby	Plentywood	BN	26
	Culbertson	BN	73

SOURCE: Montana Department of Commerce

TABLE 5-12.5
LINE FACILITIES CONDITION
Westby to Whitetail

Mileposts	- 620.05 to 676.94
Rail	- Approximately 4.5 miles of 60-lb rail, 34.2 miles of 72-lb rail, 18.2 miles of 80-lb rail; numerous locations where bars have been applied to defects; line and surface is fair to poor; 22-in and 24-in 4-hole joints.
Ties	- Treated mixed hardwoods, spaced 24-in except in soft areas they are 19-in, generally fair condition.
Tie Plates and Rail Anchors	- Approximately 85% of the ties have single shoulder plates; some areas have inadequate anchors allowing rail to run and skew joint ties.
Ballast	- Pit run gravel over cinders mixed with dirt.
Bridges	- Five (5) bridges, one (1) bridge needs work.
Road Crossings	- Twenty (20); four (4) paved, sixteen (16) unpaved.
Roadbed/ Ditching	- Several locations have drainage problems and poor subgrade. These areas generally have poor surface and alignment.
Vegetation	- Generally good with scattered locations of light grass.

Timetable
Speeds - 35 mph between mileposts 620.05, and 632.6 and 20 mph between mileposts 632.6 and 676.94.

Weight
Restriction - 263,000 lb gross weight.

Net
Liquidation - $938,495 (track material), $203,616 (land)

SOURCE: Montana Department of Commerce

Rehabilitation Costs

Since this line is composed of lightweight rail, the cost to rehabilitate the Montana segment of this branch is relatively high as detailed in Table 5-12.6. The total estimated rehabilitation cost is approximately $5.8 million with the major cost components being rail, tie plates, and the labor and equipment charges to install the heavier rail. This work would stabilize the line condition for the long term.

Effects of Abandonment

Railroad - The assets of this line could be used in other parts of the Soo Line system if this segment were abandoned. Based on the cost and revenue table presented earlier, the railroad would save the on-branch costs of approximately $798,306 per year without this line. However, the line is profitable, and an abandonment would cause a net loss of income.

Rail Users - Without this branchline, the shippers in this area would probably ship grain by truck to the nearest BN stations on the Bainville-Opheim branchline or to BN mainline stations. The estimated truck costs of lost service are $786,000 per year based on 1983 traffic.

Highways - Table 5-12.7 lists the expected increase in truck traffic on area highways that would result from branchline abandonment. Increases of average daily truck traffic over existing levels range from 0.7 percent to 13.2 percent. An annual estimated highway impact cost of $2,148,000 would result from increased truck traffic.

Alternatives Evaluated

Tables 5-12.8 and 5-12.9 list the economic evaluation of

TABLE 5-12.6

REHABILITATION COST ESTIMATE

Westby to Whitetail

Ditching, 5 miles @ $3,000	$ 15,000
Rail, 100-lb Relay (176 tons/mile x 56.9 miles @ $300	3,004,320
Joints, 100-lb S.H. (320/mile x 56.9 miles) @ $9.32	169,699
Bolts, Lock & Nuts, New (1,280/mile x 56.9 miles) @ $2	145,664
Tie Plates, S.H. (6,000/mile x 56.9 miles) @ $2.75	938,850
Spikes, New (12,000/mile x 56.9 miles) @ $ .36	245,808
Rail Anchors, New (3,240/mile x 56.9 miles) @ $1.15	212,009
Turnouts, #9, 100-lb S.H., 19 @ $10,000	190,000
Ballast (900 cu yd/mile x 56.9 miles) @ $3.60	184,356
Unload Material, 56.9 miles @ $2,200	125,180
Lary Rail, 56.9 miles @ $15,000	853,500
Install Turnouts, 19 @ $3,000	57,000
Surface and Line, 56.9 miles @ $2,500	142,250
Work Road Crossings, 20 @ $2,000	40,000
Bridge Repairs, 1 @ $70,000	70,000
Subtotal	$6,393,636
Less Value of Material Released	600,864
Total Rehabilitation Cost	$5,792,772

SOURCE: Montana Department of Commerce

TABLE 5-12.7

AREA HIGHWAY IMPACT ESTIMATES

North Dakota State Line to Whitetail

HIGHWAY	SECTION	MILEAGE	AVERAGE DAILY TRUCK TRAFFIC EXISTING	INCREASE	% INCREASE
FAP 30	Westby to Plentywood	24	52	6.9	13.2
FAP 22	Plentywood to Scobey	43	71	3.6	5.0
FAS 374	Outlook to Jct W/FAP 22	7	32	5.0	15.6
FAS 511	Whitetail to Flaxville	7	23	3.9	17.2
FAP 32	Scobey to Jct W/FAP 1	48	68	2.5	3.6
FAP 1	Jct W/FAP 32 to Wolf Point	7	348	2.5	0.7

Total Estimated Annual Highway Impact Cost: $2,148,000

SOURCE: Montana Department of Highways
Montana Department of Commerce

TABLE 5-12.8

DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS

North Dakota State Line to Whitetail

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
	Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$ -798,306
Truck/User	Annual Line Haul and Handling Cost	786,460
Other	Annual Highway Impact Cost	2,148,000
	Net Salvage Value of Rehabilitation Materials	2,156,686
	Acquisition/Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$ -798,306
Truck/User	Annual Line Haul and Handling Cost	786,460
Other	Acquisition Cost (Land and Track Materials)	-1,142,111
	Net Salvage Value of Rehabilitation Materials	2,156,686
	Annual Highway Impact Cost	2,148,000
	Liquidation Benefits	1,142,111

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Montana Department of Commerce

TABLE 5-12.9

BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS

North Dakota State Line to Whitetail

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE(1) BENEFIT	COST	NET	BENEFIT /COST RATIO
			(000's)		
Rehabilitation	$5,792.8	$23,337.1	$11,728.4	$11,608.6	1.99
Acquisition/ Rehabilitation	$6,934.9	$24,418.6	$12,870.6	$11,548.0	1.90

(1) Discount Rate - 4 Percent
Project Life - 10 Years

SOURCE: Montana Department of Commerce

rehabilitation and acquisition/rehabilitation projects for this line.

Rehabilitation - The cost of this alternative is approximately $5.8 million if the lightweight rail is replaced. The present value of project benefits is the net change in transportation costs that may occur if the line is abandoned. These benefits over a 10-year period are estimated at 23.3 million, and the present value of costs over the period are $11.7 million. The ratio of benefits to costs is 1.99.

Rehabilitation/Acquisition

The rehabilitation costs for this project are the same as stated in the rehabilitation option. Acquisition costs (the value of the line) are estimated to be $1.1 million. The present value of project benefits and costs is $24.4 million, and $12.8 million, respectively. The ratio of benefits to costs is 1.90.

Conclusions

The benefit/cost ratio of a potential rehabilitation project is over 1.0 due to the high benefits of the project. This branch is the only Soo Line property in the State, and its proximity to a BN branch provides some competition. Additionally, there are active rail users who would experience significant impacts of abandonment. For these two reasons, it is recommended that this branch be considered for a project if it ranks sufficiently high in relation to other potential projects.

PACIFIC JUNCTION TO BIG SANDY
Burlington Northern Railroad

The Pacific Junction to Big Sandy line in Chouteau and Hill Counties is 31.5 miles long. The line was part of a 119 mile route between Pacific Junction and Great Falls; however, the middle section of the branchline from Fort Benton to Big Sandy has been abandoned and salvaged. Normalized maintenance should keep the line in good condition with the current level of traffic. The location of the line is illustrated in Figure 5-13.

Several issues surround the Big Sandy to Pacific Junction branchline.

- Category V - Light density line which means there are no abandonment plans at this time.
- Two major rail service users in Big Sandy with 52 car unit train capability.
- Two smaller shippers in Big Sandy ship sunflower seeds.
- The major rail service user in Box Elder also has unit train capability.

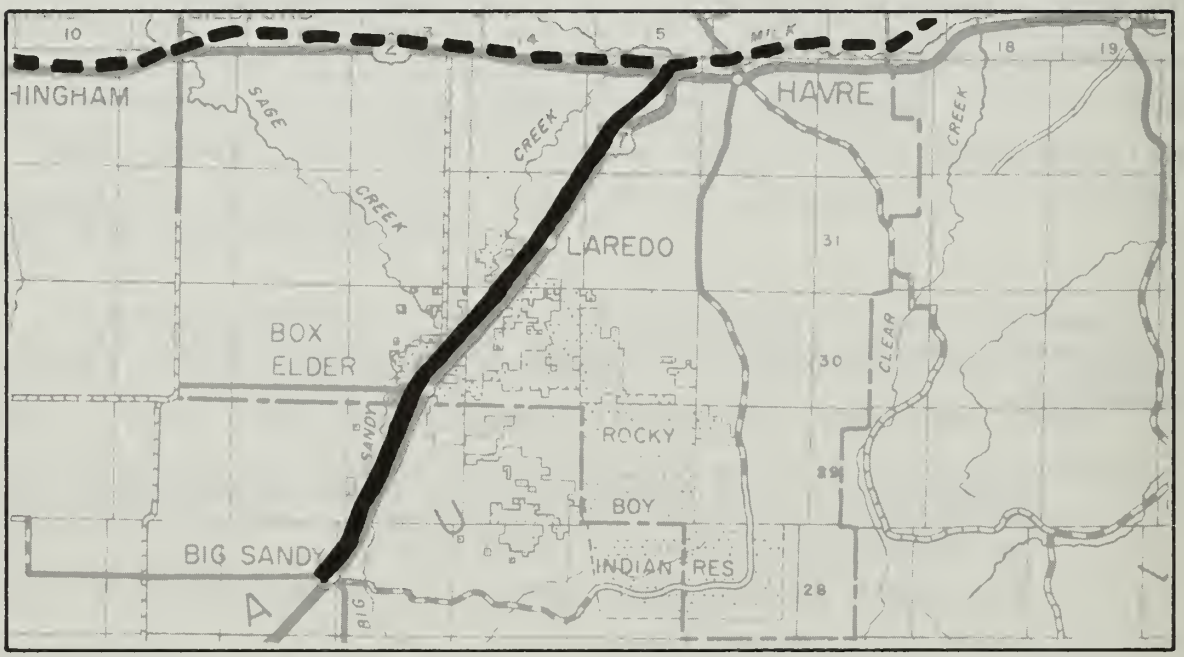
Shippers in Box Elder and Big Sandy felt that if the rail line were abandoned, they would be able to ship by truck to rail facilities or final destination, but they would eventually go out of business.

Rail Use

Two tables are compiled to depict rail usage on the line. Table 5-13.1 indicates that two stations on the branchline would be directly affected by an abandonment. These stations

PACIFIC JUNCTION TO BIG SANDY

RAILROAD: BURLINGTON NORTHERN
LENGTH: 31.5 MILES
COUNTIES: CHOUTEAU, HILL
STATUS: LIGHT DENSITY LINE



0 10 20 30 40 50 MILES

SUBJECT LINE

ALL OTHER LINES

FIGURE 5-13

TABLE 5-13.1
RAILROAD USERS
Pacific Junction to Big Sandy

NAME	STATION	SIDING(1)	COMMODITY
Big Sandy Grain	Big Sandy	T	Farm Products
Continental Grain Co.	Big Sandy	T	Farm Products
Land Seed Co.	Big Sandy	N/A	Farm Products
North Central Co-op	Big Sandy	P	Farm Products
General Mills	Box Elder	P	Farm Products

(1) P - Private Or Leased Siding On Premises.
T - Team Track

SOURCE: Montana Department of Commerce

are Big Sandy and Box Elder. Rail traffic for 1983 was 1,267 cars with the majority originating in Big Sandy. Table 5-13.2 indicates the major and minor shippers that utilize this line for the movement of wheat, barley, sunflower seeds, and fertilizer.

Rail Service

Service to Big Sandy originates at Pacific Junction (Havre) on an as needed basis. Maximum timetable speed is 40 miles per hour. This branchline generates $3,857,000 in total revenues. Should the line be abandoned the present operator would forfeit $2,517,000 annually in profits. Profits are arrived at by deducting avoidable costs (labor, maintenance of equipment etc.) and foregone opportunity costs (the loss of revenue incurred by not using the branchline assets elsewhere) from total revenues generated on the branchline. This data can be reviewed in Table 5-13.3.

Highways

The subject line is paralleled by Federal Aid Primary 10 and connects Big Sandy with Pacific Junction (west of Havre). This highway along with other roadways in the area are illustrated in Figure 5-13. Average daily traffic in this area is relatively light, ranging from 1,946 at Big Sandy to 1,271 at Box Elder. Eleven percent of this traffic is commercial. Alternative rail stations are listed in Table 5-13.4.

Rail Inventory and Condition

Table 5-13.5 summarizes the results of an inspection on this line. The line is in good condition with heavy rail. The rail has good crossties and is sufficiently plated and anchored. These conditions permit a timetable speed of 40 mph. There is no rehabilitation necessary for this line.

TABLE 5-13.2
RAILROAD USE STATISTICS
Pacific Junction to Big Sandy

STATION	CARLOADS NUMBER	CARLOADS PERCENT	TONS NUMBER	TONS PERCENT	COMMODITY
			Originating		
Big Sandy	1,177	92.9	117,677	92.9	Grain
Box Elder	82	6.5	8,200	6.5	Grain
			Terminating		
Big Sandy	8	0.6	800	0.6	Fertilizer
TOTAL	1,267	100.0	126,677	100	

SOURCE: Montana Department of Commerce

TABLE 5-13.3

ESTIMATED REVENUES AND COSTS

Pacific Junction to Big Sandy

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On-Branch	$3,856,844
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$ 432,459
a. Maintenance of Way and Structures (Normalized)	216,000
b. Transportation	92,839
c. Maintenance of Equipment	123,620
3. Off-Branch Costs	$ 789,223
4. Total Avoidable Costs (Line 2 + Line 3)	$1,221,682
5. Avoidable Loss from Operations (Line 1 - Line 4)	$(2,635,162)(1)
6. Net Liquidation (Line 6a + Line 6b)	$ 545,874
a. Materials	460,792
b. Land	85,082
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	$ 117,909
9. Total Avoidable Loss (Line 5 + Line 8)	$(2,517,253)(1)

(1) Parentheses Indicates Gain

SOURCE: Montana Department of Commerce

TABLE 5-13.4

DISTANCE TO SELECTED RAILROAD STATIONS

Pacific Junction to Big Sandy

TOWN	ALTERNATIVE RAIL STATION	RAILROAD	ROAD DISTANCE
Big Sandy	Havre	BN	32
	Fort Benton	BN	38
Box Elder	Havre	BN	22

SOURCE: Montana Department of Commerce

TABLE 5-13.5

LINE FACILITIES CONDITION

Pacific Junction to Big Sandy

Mileposts	-	0.0 to 31.2
Rail	-	110-lb and 112-lb rain in good condition.
Ties	-	Treated hardwoods and softwoods in good condition.
Tie Plates and Rail Anchors	-	Fully plated with single shoulder plates and adequate rail anchors.
Ballast	-	Crushed rock and gravel.
Bridges	-	Total of 14 bridges, all that were observed were in good condition.
Road Crossings	-	Ten (10) crossings, two (2) were paved and eight (8) were unpaved.
Roadbed/Ditching	-	Roadbed and ditches are in good condition.
Vegetation	-	Ballast section is clear with vegetation growing on shoulders.
Timetable Speed	-	40 mph
Weight Restrictions	-	263,000 lb gross weight.
Net Liquidation	-	$460,792 (materials), $85,082 (land)

SOURCE: Montana Department of Commerce

Effects of Abandonment

Railroad - Should the railroad abandon this branchline it would loose $2.7 million in generated revenue per year.

Rail Users - Those who utilize the branchline would be forced to use trucks for moving commodities to the mainline at Havre and Great Falls or the branchline at Fort Benton. By comparing trucking costs to the nearest mainline stations at Havre to on-branch costs, it can be concluded that the annual economic cost of transporting these commodities by truck is $12,000 greater.

Highways - In the event of abandonment highway commercial traffic at Box Elder would increase from 141 average daily truck traffic to 152 average daily truck traffic, representing a 7.2 percent increase. Commercial traffic at Big Sandy would increase from 216 average daily truck traffic to 226 average daily truck traffic, representing an increase of 4.4 percent. Acknowledgement of these statistics suggests a significant increase in commercial truck traffic on existing highway facilities.

Alternatives Evaluated

In the event of abandonment, which admittedly is a remote possibility in the near future, this line would be a strong candidate for acquisition. Rail operations could be turned over to another operator as a shortline without a great deal of initial capital investment, as this line does not require rehabilitation for continued operation. Tables 5-13.6 and 5-13.7 show the results of a benefit/cost analysis for an acquisition project.

Acquisition Option - The cost of acquiring this line is estimated at $545,874. The net present value of benefits and

TABLE 5-13.6

DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS

Pacific Junction to Big Sandy

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
	Acquisition Option	
Railroad/ Operator	Annual Cost Savings On-Branch	$-550,367
Truck/User	Annual Line Haul and Handling Cost	562,335
Other	Liquidation Benefits	545,874
	Acquisition Cost (Land and Track Materials)	-545,874

SOURCE: Montana Department of Commerce

TABLE 5-13.7

BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS

Pacific Junction to Big Sandy

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE(1) BENEFIT	COST	NET	BENEFIT/ COST RATIO
Acquisition	$545.9	$5,127.0	$5,188.4	$-61.4	0.99

(1) Discount Rate - 4 Percent.
Project Life - 10 Years.

SOURCE: Montana Department of Commerce

costs over a ten year period are $5.127 million and $5.188 million, respectively, resulting in a benefit/cost ratio of 0.99 and a net present value of $-61,400. This benefit/cost ratio does not reflect the expected significant highway impact costs associated with an abandonment.

Conclusions

The subject branchline is financially viable and in good repair for continued service with a Category V classification. Considering the given data it can be determined that this branchline is not a candidate for abandonment in the near future. Therefore, this line should not be considered for project funds unless the BNRR considers the line for abandonment, and the line ranks high compared to other lines in this report.

PHOSPHATE SPUR
Burlington Northern Railroad

The Phosphate Spur is approximately five miles long and is located eight miles from Garrison in Powell County. The only traffic on this line is loaded approximately one mile north of the connection with the BNRR's mainline. The rest of the line is abandoned. Figure 5-14 illustrates the location of the Spur.

The status and issues for the Phosphate Spur can be summarized as follows:

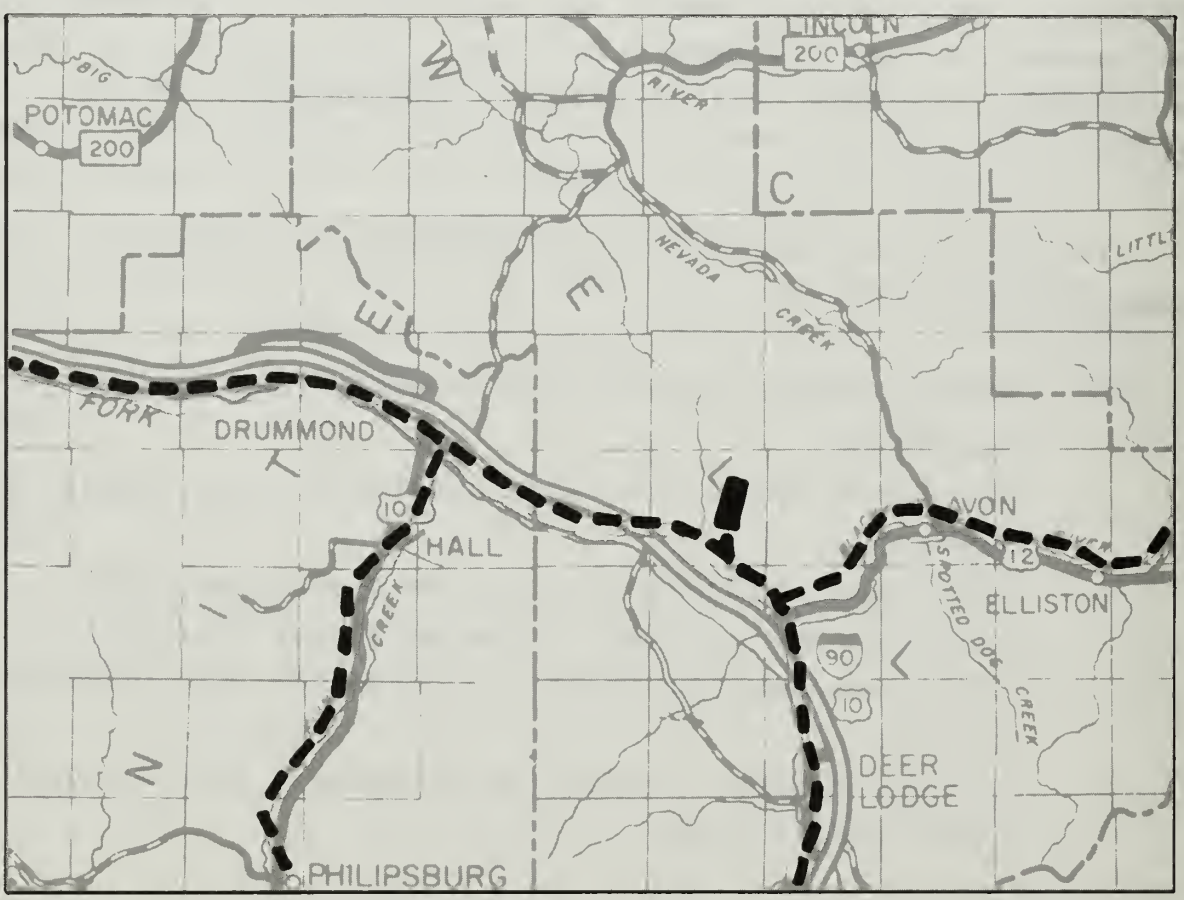
- The 3.6 miles north of the existing loading site is abandoned.
- The first mile of the line handles a large volume of traffic.
- Abandoned portion used to serve a phosphate mine which has been closed for seven years. Mine site still has reserves which are currently not economical to mine.
- Current loading activity at Milepost 1 from another truck-served mine.

Rail Use

Approximately 2,000 carloads of phosphate rock were handled in 1983 at the current loading site as listed in Table 5-14.1. The line segment which carries this traffic is not currently in danger of abandonment. Table 5-14.2 lists the only shipper.

PHOSPHATE SPUR

RAILROAD : BURLINGTON NORTHERN
LENGTH : 3.6 MILES
COUNTIES : POWELL
STATUS : ABANDONED



0 10 20 30

MILES

LEGEND

SUBJECT LINE

ALL OTHER LINES

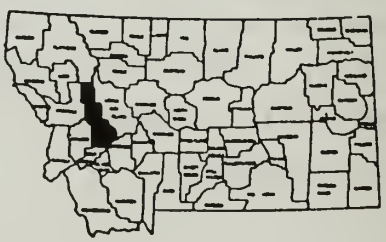


FIGURE 5-14

TABLE 5-14.1

RAILROAD USE STATISTICS - 1983

Phosphate Spur

STATION	CARLOADS NUMBER	CARLOADS PERCENT	TONS NUMBER	TONS PERCENT	COMMODITY
		Originating			
Milepost 1.0	2,000	100.0	190,000	100.0	Nonmetallic Minerals
		Terminating			
None					
Total Traffic	2,000	100.0	190,000	100.0	

1983 Statistical Summary
Length: 3.5 Miles
Carloads Per Week: 38.4
Carloads Per Mile: 2,000

Traffic Volume History (Estimated)

1976	1,900
1977	1,900
1978	1,900
1979	1,900
1980	2,200
1983	2,000

NOTE: This traffic is not affected by the recent abandonment of the 3.6 mile section north of the existing loading site.

SOURCE: Burlington Northern Railroad
Montana Department of Commerce

TABLE 5-14.2

RAILROAD USERS

Phosphate Spur

NAME	STATION	SIDING(1)	COMMODITY
Cominco	Milepost 1	P	Nonmetallic Minerals

(1) P Private Or Leased Siding On Premises.
T - Team Track
SOURCE: Montana Department of Commerce

Rail Service

This short spur connects with the BNRR's mainline which runs to Sandpoint, Idaho. The service frequency for the loading site is four days a week from April through October. The portion of the line that has been abandoned is not used.

Highways

Access to Interstate 90 and the BNRR mainline from the subject line is provided by a paved county road. Figure 5-14 illustrates the locations of primary and secondary highways. None of the existing truck traffic to the loading site uses the Interstate.

Rail Inventory and Condition

The Phosphate Spur is composed of heavy rail with the portion still in service exhibiting curve wear and poor rail ends. The remainder also has some poor rail ends. Ties on the line are generally in fair condition. The timetable speed is 20 mph, but most of the line is out of service. The estimated net liquidation value (including land and track material) of the segment that may be abandoned is $396,671. Details are provided in Table 5-14.3.

Effects of Abandonment

Railroad - The assets of this line ($396,671) can now be used by the BNRR elsewhere since the line has been abandoned. The first mile of the line will continue to be served.

Rail Users - The only rail user on the Phosphate Spur trucks its product from an off-line mine site. Therefore, this traffic is not affected by an abandonment. However, the company's mine at the end of the line could be reopened as

TABLE 5-14.3
LINE FACILITIES CONDITION
Phosphate Spur

Mileposts	- 0.0 - 4.7 (Out of service beyond milepost 1.1)
Rail	- Approximately 0.5 miles of 115-lb rail, 3.7 miles of 131-lb rail, and 0.5 miles of 100-lb rail; 115-lb rail at mainline is in fair condition, 131-lb rail within the heavily used segment near mainline is curve worn and with poor rail ends, and the remaining portion of 131-lb is generally good except for scattered segments with poor rail ends or curve worn rail that has been transposed.
Ties	- Treated mixed hardwoods and softwoods in fair condition.
Tie Plates and Rail Anchors	- Fully plated with both double and single shoulder plates; rail anchors throughout, generally adequate.
Ballast	- Rock over dirt.
Road Crossing	- One (1) paved.
Roadbed/ Ditching	- Roadbed width adequate; no significant drainage problems, except ditches need to be cleaned when service is restored to entire line.
Vegetation	- Track and roadbed clear of vegetation between mainline connection and point where track has been taken out of service (approximately milepost 1.1); from this point to the end of the line weeds and grass on roadbed.

Timetable
 Speed - 20 mph (Out of service beyond milepost 1.1)

Weight
 Restrictions - 263,000 lb gross weight

Net
 Liquidation - $382,430 (track material), $14,241 (land)

SOURCE: Montana Department of Commerce

higher grade material is depleted at other sites. The rail user survey did not reveal a definite reopening date, but a company spokesman indicated that the mine may begin operations in two or two and one-half years.

The Cominco Co. has acquired the abandoned right-of-way from the BNRR. The railroad will salvage the track materials. The company plans to use the right-of-way as a truck haul route when the mines near the end of the road begin operations. The ore will be trucked down this right-of-way to the loading site at M.P. 1.

Highways - The current loading activity at Milepost 1 is the result of the mining activity at an off-line site. Therefore, this truck traffic is unaffected by the abandonment. The abandonment is the result of an external factor, the closure of the mine at the end of the line. When the mines at the end of the line open, the ore will be trucked to M.P.1 over the abandoned right-of-way. For this reason, there is no highway impact of abandonment.

Conclusions

It appears that the Cominco Co. and the BNRR have negotiated an agreement regarding the abandonment of the line that is acceptable to both parties. The railroad will salvage the track materials and the Cominco Co. will use the right-of-way for a truck haul route. It is estimated that the mines near the end of the abandoned line will begin operations in two to two and one-half years. Under these circumstances state involvement in this line is not necessary.

SACO TO LORING
Proposed Shortline Operation

This branchline originally extended from Saco to Hogeland, a distance of 79.3 miles. The line was abandoned by the BNRR in August of 1983. The location of the line and area highways are shown in Figure 5-15.

The status and issues concerning this line are as follows:

- There are no public grain warehouses on the branchline.
- Shippers have converted to trucking to the BNRR mainline in Saco, Malta, Harlem, and Havre. Saco and Malta receive some wheat and feed barley for milling. Harlem and Havre have 52 car unit train loading facilities and receive the majority of the wheat shipments. Havre is 46 miles from Harlem and a 52 car single origin rate of 8¢ per cwt exists between the two locations.
- Farmers in the Whitewater area use trucks to move grain over State Highway 242 to Malta and U.S. Highway 2 to Harlem and Havre. Loss of rail service has not affected the volumes of grain moving out of this area, and over half of the farmers interviewed for this report have invested in semitrailer-tractor combinations to move their grain to the BNRR mainline.
- Farmers in the Loring area truck south on State Highway 242 to Malta and east on U.S. Highway 2 to Harlem and Havre, or west to State Highway 241 to Turner and south to Harlem. Loss of rail service apparently has had a minimal impact on these shippers

SACO TO HOGELAND

RAILROAD: BURLINGTON NORTHERN
LENGTH: 79.3 MILES
COUNTIES: PHILLIPS, BLAINE
STATUS: ABANDONED

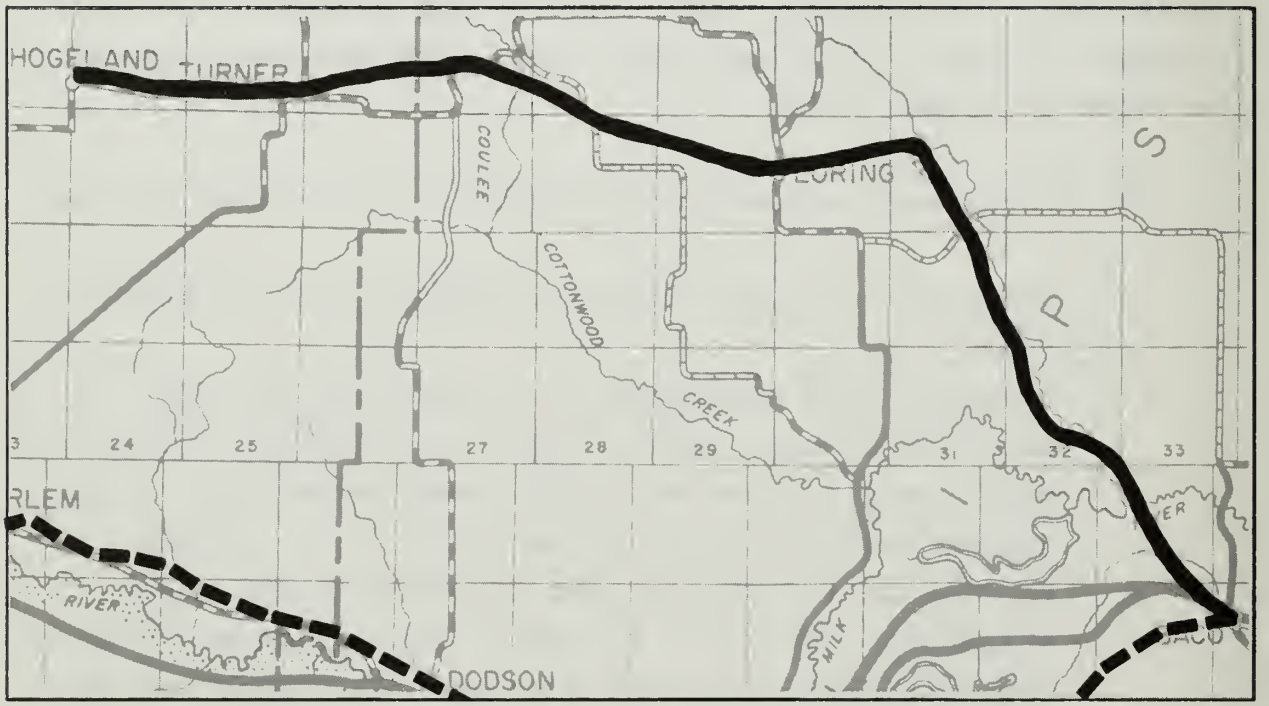


FIGURE 5-15

and most hire local independent semi truckers to haul grain to the BNRR mainline.

- Residents in the area voiced a great deal of concern over impacts of increased numbers of trucks on local roads and highways. The Phillips County Commissioners in Malta stated that if monies were available to address grain transportation problems in the area, it should be spent on the road system.
- The total annual highway impact cost resulting from the abandonment of the Saco to Loring section of the branchline is estimated to be $147,032. As shown in Table 5-15.1, increases in average daily truck traffic range from 0.4 percent to 5.8 percent.

TABLE 5-15.1
AREA HIGHWAY IMPACT ESTIMATES
Saco to Loring

			AVERAGE DAILY TRUCK TRAFFIC		
HIGHWAY	SECTION	MILEAGE	EXISTING	INCREASE	%INCREASE
FAS 242	Loring-Malta	38	25	1.46	5.8
FAP-1	Malta-Harlem	46	328	1.46	0.4

Total Estimated Annual Highway Impact Cost: $147,032

SOURCE: Montana Department of Highways
Montana Department of Commerce

Proposed Shortline Operation

The following is an analysis of a shortline operation that would extend from Saco on the BNRR mainline to Loring, a distance of 39 miles. Below are listed the assumptions upon which this analysis is based.

1. Line rehabilitation completed for 25 mph operations of C-6 100 ton covered hopper cars with gross weight of 263,000 lbs.
2. One GP-9 locomotive or equivalent will be provided in serviceable condition.
3. Reasonable amount of equipment will be available to service track including motorized vehicles and hand tools.
4. Grain service to operate as needed.
5. A minimum of 150 grain cars will originate yearly.
6. Revenue will be derived from a 15% division of revenue and 10 cent per hundred weight surcharge on originating traffic.
7. Part time employees will be available for train operation and locomotive maintenance.

Table 5-15.2 shows the initial investment that would be necessary to start the shortline. The largest cost items would be for rehabilitation ($896,500) and acquisition ($200,000).

It should be noted that this rehabilitation figure is considered to be the bare minimum expenditure necessary to place the line in serviceable condition. The expenditure that would be required to replace the lightweight rail and to upgrade the line for the long term to accommodate 100 ton hoppers to a Class II level of operation (25 mph) would exceed $5.0 million.

Table 5-15.3 lists the estimated revenues and costs that would result from shortline operations based on 150 cars per year. Income to the branch would come from a 15% division of revenue and a 10¢ per cwt surcharge, totalling $94,800. Operating costs on the line are estimated to be $147,612, leaving the shortline with a loss of $52,812.

TABLE 5-15.2

SACO - LORING INITIAL INVESTMENT

39 Miles

1.	Line Acquisition	$ 200,000
2.	Line Rehabilitation	
	a. Ties - 200 per mile @ $40 ea.	312,000
	b. Ballast 500 Cu. Yds. per mile @ $4 cu. yd.	78,000
	c. Surface and Line $3,500 per mile	136,500
	d. Miscellaneous (weed control, rail, anchors, tie plates, spikes and bridges)	195,000
	e. Build connections at Saco	175,000
3.	Locomotives	
	a. 2 - GP-9 @ $25,000 ea.	50,000
4.	Rolling Stock	
	Wedge Plow	10,000
5.	Track Repair Equipment	
	Hi-rail truck tools	75,000
6.	Track Inventory	10,000
7.	Start-Up Capital	48,000
	TOTAL	$1,289,500

SOURCE: Montana Department of Commerce

TABLE 5-15.3

ESTIMATED REVENUE AND COST

Saco to Loring

1.	Income to Branch (Line 1a + 1b)		$ 94,800
	a. 150 cars x $2,880 per car X 15% division	$64,800	
2.	On-Branch Costs (Line 2a Through 2c)		$147,612
	a. Operations	$41,400	
	b. Mechanical	$25,824	
	c. Maintenance of Way	$80,388	
3.	Avoidable Loss from Operations Line 2 - Line 1		$ 52,812

SOURCE: Montana Department of Commerce

The results of a benefit/cost analysis of the shortline operation option are shown in Tables 5-15.4 and 5-15.5.

The project cost of this alternative is $1.28 million. The net present value of benefits is $2.2 million, and the present value of costs is $2.3 million, resulting in a benefit/cost ratio of 0.92 and a net present value of $-183,000.

Conclusion

Although the Saco to Loring shortline alternative generated a relatively high benefit/cost ratio of 0.92, there are other items to consider when evaluating the feasibility of this option. A sufficient number of carloadings to offset operating costs is a crucial element in this project evaluation.

There are no longer any public grain warehouses on the branchline. This means that growers in the area would be required to cooperate with one another and schedule an agreed upon time to load cars each time a shipment was to be made. Whether growers in the area would be willing to cooperate in this manner over the long term every time cars were to be loaded is speculative. This problem could be circumvented by purchasing covered hoppers and using them as storage facilities while they sat on the track until a unit train was loaded. Private cars would also eliminate the accumulation of car per diem charges. However, it is estimated that purchasing the required number of 52 cars to create a unit train could cost several million dollars.

The operating scenario proposed here assumes that shippers in the Whitewater - Loring area would load 150 cars on an annual basis. It should be noted that although it is possible that 150 cars could be loaded every year, car loading records indicate that carloadings have usually been lower. Table 5-15.6 lists the traffic levels at all stations between Saco and Loring.

TABLE 5-15.4
DISTRIBUTION OF BENEFITS
Saco to Loring

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
	Saco to Loring, Acquisition/Rehabilitation/ Shortline Operation Alternative	
Railroad/ Operator	Annual Operating Cost Savings	$ -147,612
Truck/User	Annual Line Haul and Handling Cost	130,500
Other	Acquisition Cost (Land and Track Materials)	-200,000
	Annual Highway Impact Cost	147,032
	Equipment Cost	-193,000
	Liquidation Benefits	200,000

SOURCE: Montana Department of Commerce

TABLE 5-15.5
BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS
Saco to Loring

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE (1) BENEFIT	COST (000's)	NET	BENEFIT/ COST RATIO
Shortline Operation	$1,289.5	$2,204.1	$2,387.0	$-183.0	0.92

(1) Discount Rate - 4 Percent.
Project Life - 10 Years.

SOURCE: Montana Department of Commerce

TABLE 5-15.6
TRAFFIC STATISTICS 1973-1982
Saco to Loring

Year	Total Carloads
1973	96
1974	149
1975	129
1976	139
1977	94
1978	137
1979	91
1980	154
1981	57
1982	0

SOURCE: Burlington Northern Railroad

If the rates on the shortline are to be attractive to shippers, the shortline must be able to obtain a 52 car rate. If 150 cars are loaded each year, a total of 3 trains annually will be moved on the line. It must be questioned if it is prudent to invest in a line to provide service to an area once every four months when alternative transportation exists.

A financial analysis reveals that at a 15% division of revenue and a 10¢ per cwt surcharge, 150 cars a year would produce a loss of $52,812. Many of the costs associated with operating the line are fixed or vary only slightly with changes in traffic. If traffic levels fall much below the projected 150 cars, the financial loss associated with the operation would increase rapidly. In such a case, continued operation of the line would require a subsidy.

It is concluded that this line not be considered for project funds unless it ranks high in relation to other projects in this report.

SIPPLE TO LEWISTOWN
Burlington Northern Railroad

When complete, this 24 mile branchline will extend from Sipple near the BNRR mainline to Lewistown as shown in Figure 5-16.

The status and issues concerning the branchline are as follows:

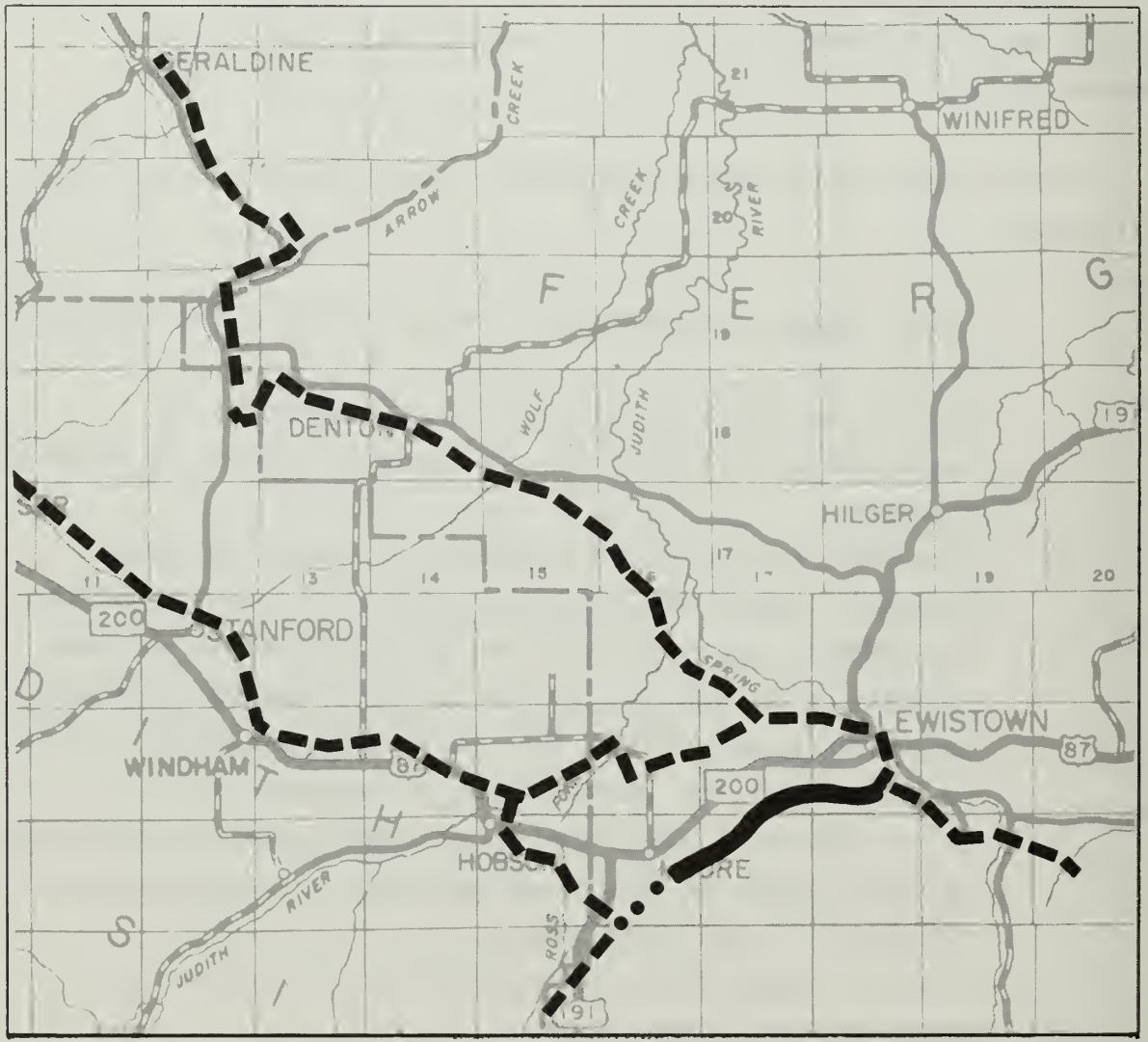
- Light density branchline not identified for abandonment.
- This line provides essential rail service to Lewistown, an important population center in central Montana.
- The BNRR has agreed to build a connecting line between Sipple and Moore in 1985. This will allow the BNRR to provide service into Lewistown without investing in costly bridge rehabilitation on the existing line between Moccasin and Lewistown, which is scheduled for abandonment (Category 1).
- It is expected that contingent upon the construction of the Sipple to Moore connection, a grain subterminal will be built in Moore.
- Federal assistance is required to build to Moore-Sipple Connection.

I. Construction of the Moore to Sipple Connection

This project consists of rebuilding the trackage from Moore to Sipple (about 5.4 miles) and building a completely new connection from Sipple to the BNRR mainline, a distance of about 1.0 miles.

SIPPLE TO LEWISTOWN

RAILROAD: CENTRAL MONTANA RAIL
LENGTH: 23 MILES
COUNTIES: FERGUS, CHOUTEAU
STATUS: LIGHT DENSITY LINE



SUBJECT LINE
ALL OTHER LINES
PROPOSED FOR 1985 CONSTRUCTION SEASON

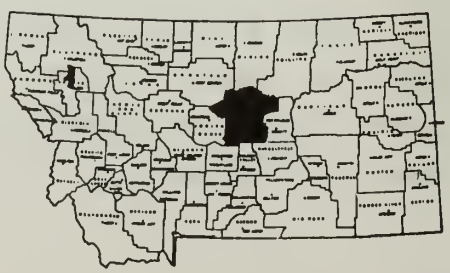


FIGURE 5-16

This trackage was originally owned by the Chicago, Milwaukee and St. Paul Railroad. The Lewistown-Moore section was purchased in 1980 by the BNRR. The remainder of the trackage, from Moore south to Judith Gap was removed by the Milwaukee. At Sipple, there is about a mile that separates the BNRR mainline from the old Milwaukee trackage.

This project will be completed by the BNRR so it can abandon the 30.7 mile connection from Moccasin to Lewistown. By abandoning this section of track, the railroad would be able to terminate operation over the Spring Creek bridge, which is a 50 year old wooden structure that is 85 feet high and 1,392 feet long.

When this bridge was built, it was not anticipated that 26 or 52 100-ton car unit trains would someday be the norm. The BNRR states that continued safe operation over this bridge for the long term cannot be expected. Rehabiliation cost of the bridge is estimated at over $3.0 million. The Moore-Sipple Connection would provide a good Class II line without building a new major trestle at Spring Creek. Due to the age of the Spring Creek bridge and the cost of rehabilitation for this structure, building the new connection is the preferable option.

The construction of the Moore-Sipple Connection is scheduled for completion in 1985. Table 5-16.1 provides the Burlington Northern's construction cost estimates, which total $2,738,000.

Further investigation of this alternative is provided in the benefit/cost section of Part II of this branchline analysis.

TABLE 5-16.1

CONSTRUCTION COST ESTIMATE

Moore to Sipple to Mainline

	LABOR	NON-LABOR
Preliminary Engineering	$ 18,000	$
Construction Engineering	6,000	
Purchase 77.35+ Acres Additional R/W		171,800
Relocate Various Power Lines		25,000
72,200 Cu. Yds., Exc. to Emb.		288,800
62,200 Cu. Yds., Exc. to Waste		124,400
Const. 8 Span Timber Trestle - Open Deck	48,700	26,500
Repl. Bridge with 2-48" C.M.P.A. 42' Lg.	1,100	7,400
Place 2 Lines 72" C.M.P. 68' Lg. W/Flared Ends	5,600	27,100
Place 2 Lines 18" C.M.P. 32'Lg.	400	1,400
Ext. 1-4" and 2-42" R.C.P.'s 10' Each	1,200	1,400
Ext. 2-42" R.C.P.'s 36' Each	2,800	3,300
Ext. 1-24" R.C.P. with 24'	400	800
Repl. 24" R.C.P. with 24" C.M.P. 38'	400	1,200
Place 24" C.M.P. 42' Lg.	400	1,400
Relocate 2-18" C.M.P.'s 30'	400	
9.467 M.B.M. Switch Ties		4,100
19,726 Crossties No. 5's		365,600
Unload Ties	10,400	
Place Ties	10,400	
Work Train Service - Ties	2,300	
406 L.F. 115# Rail - New 6.95 G.T. (Switches)		4,000
67,266 L.F. of S.H. 115# CWR 1151.0266		104,400
2 Sets Stock Rails 115#		2,800

	LABOR	NON-LABOR
1868 Plant Welds - Laurel		50,400
57 Field Welds		25,600
12 Pr. Angle Bars 115#		500
72 Track Bolts and Lock Washers		100
180 Tie Plates 7 3/4" x 14"		800
39,452 Tie Plates 7 3/4" x 14" S.H.		90,200
158,500 Track Spikes 5/8" x 6"		36,800
26,700 Rail Anchors		24,600
1 Switch - #11-115# 19'-6" Lg.		5,300
1 Switch - #9-115# 16'-5" Lg.		4,500
1 Frog #11-115# R.B.M. 18'-6" Lg.		4,600
1 Frog #9-115# R.B.M. 15'-0" Lg.		3,900
2 Sets Guard Rails 15'-0" Lg.		3,700
2 Switch Stands High Target		1,100
Construct Track 33,572 T.F.	263,600	
Construct #11 Turnout	7,600	
Construct #9 Turnout	5,800	
Unload Rail and Other Track Material	25,700	
Place 57 Welds	4,600	
Work Train Service - Rail	2,300	
14,250 Cu. Yds. Ballast Essex		84,700
Unload Ballast	3,000	
Surface, Line and Tamp Track	8,900	
Work Train Service - Ballast	2,300	
33,572 L.F. Fabric 15 ½ Ft. Wide, 18-Oz.	7,000	96,300
Const. 24' Full Depth X-Ing W/Flauger and Pvt. X-Ing Signs	700	1,100
Const. 24' Full Depth X-Ing W/Flauger and Pvt. X-Ing Signs	1,200	1,700
Const. 24' Full Depth X-Ing W/Flauger and X-Buck Signs	700	1,100
Const. 32' Full Depth X-Ing W/Flauger and X-Buck Signs	800	1,300

	LABOR	NON-LABOR
Const. 64' Full Depth X-Ing W/Flauger and X-Buck Signs	1,700	2,300
Const. 34,500 L.F. R/W Fence	62,100	13,300
Relocate 8,300 L.F. R/W Fence	14,900	
Relocate ConAgra Facilities (Contract)		25,000
Purchase Expense 544,000 x 4%		21,800
Store Expense 217,800 x 13%		28,300
Store Expense S.H. Rail 104,400 x 9%		9,400
Overhead		
Labor Additives 82.5% x 521,400	430,200	
On Line Transportation 1% x 846,500		8,500
Business Expense		52,000
Contingencies	26,100	
	$977,700	$1,760,300

TOTAL $2,738,000

SOURCE: Burlington Northern Railroad

II. Analysis of Operations from Sipple to Lewistown

This analysis will utilize 1983 commodity movement data from stations at Moore and Lewistown to estimate revenues and costs that will be generated after the Sipple to Moore connection is built.

Rail Use

As shown in Table 5-16.2, a variety of commodities are shipped to and from Moore and Lewistown. Grain, wood chips, and wood products account for over 95% of the traffic. Most of the users in the Lewistown area ship or receive only a few cars annually. Of the twelve Lewistown users identified, only three have received or shipped more than six carloads in 1983. Rail users are listed in Table 5-16.3.

Rail Service

This analysis assumes rail service twice a week at a timetable speed of 25 mph. The estimated revenues and costs associated with the Sipple to Lewistown line are illustrated in Table 5-16.4. Using 1983 traffic data, the line would produce a profit of $1.1 million. Revenues on the line are $2.3 million, and on and off-branch operating costs (including opportunity costs) totalled $1.2 million.

Highways

Federal Aid Primary Highway 57 parallels the line and connects Lewistown and Moore. The same highway connects Moore with the BNRR station at Moccasin. The distances from Lewistown and Moore to other BNRR stations are listed in Table 5-16.5.

TABLE 5-16.2

RAILROAD USE STATISTICS - 1983

Sipple to Lewistown

	CARLOADS		TONS		
STATION	NUMBER	PERCENT	NUMBER	PERCENT	COMMODITY
			Originating		
Lewistown	6	0.6	360	0.3	Scrap
	135	13.7	13,500	13.0	Wood Chips
	557	56.6	55,030	53.1	Grain
	132	13.4	13,200	12.7	Wood Products
Moore	117	11.9	17,710	17.1	Grain
			Terminating		
Lewistown	10	1.0	992	0.9	Dry Fert.
	2	0.2	154	0.1	Dry Fert.
	14	1.4	151	0.1	Machinery
	5	0.5	37	0.03	Furniture
Moore	26	2.6	2,500	2.4	Dry Fert.
TOTAL	984	100.0	103,634	100.0	

Projected Statistical Summary Using 1983 Data

Length: 24 Miles
Carloads Per Week: 18.9
Carloads Per Mile: 41.0
Revenue: $2,294,225

SOURCE: Montana Department of Commerce

TABLE 5-16.3
RAILROAD USERS
Sipple to Lewistown

NAME	STATION	SIDING(1)	COMMODITY
Berg Lumber	Lewistown	P	Wood Chips, Wood Products
Moodie Implement	Lewistown	T	Machinery
Wier Furniture	Lewistown	T	Furniture
Agribasics Company	Lewistown	P	Chemicals
Cenex	Lewistown	P	Chemicals
Lewistown Propane Company	Lewistown	P	Chemicals
Cargill, Inc.	Lewistown	P	Grain
AK Equipment	Lewistown	T	Machinery
Fergus Equipment Co., Inc.	Lewistown	T	Machinery
Pacific Iron and Steel	Lewistown	P	Scrap
Serve-Ur-Self Furniture	Lewistown	P	Furniture
Harvest States	Lewistown	P	Grain
Moore Farmers Oil Company	Moore	P	Chemicals
Peavey, Inc.	Moore	P	Grain
Agribasics Company	Moore	P	Chemicals

(1) P - Private Or Leased Siding On Premises
T - Team Track

SOURCE: Montana Department of Commerce

TABLE 5-16.4

ESTIMATED REVENUES AND COSTS

Sipple to Lewistown

REVENUES ATTRIBUTABLE	USING 1983 DATA
1. Freight Originated And/Or Terminated On-Branch	$2,294,225
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$ 338,565
a. Maintenance of Way and Structures (Normalized)	144,000
b. Transportation	93,282
c. Maintenance of Equipment	101,283
3. Off-Branch Costs	624,401
4. Total Avoidable Costs (Line 2 + Line 3)	$(962,966) (1)
5. Avoidable Loss from Operations (Line 1 - Line 4)	$(1,331,259) (1)
6. Net Liquidation (Line 6a + Line 6b)	$1,020,210
a. Materials	905,232
b. Land	114,978
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	220,365
9. Total Avoidable Loss (Line 5 + Line 8)	$(1,110,894) (1)

(1) Parenthesis Indicates Gain

SOURCE: Montana Department of Commerce

TABLE 5-16.5
DISTANCE TO SELECTED RAILROAD STATIONS
Sipple to Lewistown

TOWN	RAIL STATION	RAILROAD	DISTANCE (Miles)
Moore	Moccasin	BN	13
Lewistown	Moccasin	BN	27
	Sipple	BN	19

Rail Inventory and Condition

Table 5-16.6 reveals the results of an inspection of the Moore to Lewistown section of the line. The line appears to be in fair to good condition.

Rehabilitation Costs

Approximately $1.1 million is needed to rehabilitate the Moore to Lewistown section. Major cost items include installing heavier rail and new cross ties. Table 5-16.7 provides details.

Effects of Abandonment

Railroad - Assuming the completion of the Sipple to Moore connection and 1983 traffic levels, this line would produce a profit for the railroad. Abandonment in the near future is not expected as the line has not been identified for abandonment, and because Lewistown may soon be served via the new connection between Moore and Sipple.

Rail Users - Shippers would be adversely affected by an abandonment. Lewistown is an important business and population center in Central Montana. Loss of rail service could discourage potential new business from locating in the area. The economic costs of trucking commodities that now move by rail to and from final destinations are considerably greater.

TABLE 5-16.6
LINE FACILITIES CONDITION
Lewistown to Moore

Mileposts	- 63.0 - 43.4
Rail	- .5 miles of 100-lb rail, 12.1 miles of 90-lb rail, and 5 miles of 75-lb rail, generally in good condition.
Ties	- Treated mixed hardwoods and softwoods, generally in fair condition.
Tie Plates	- Fully plated with single shoulder tie and rail anchors plates; varying number of rail anchors with scattered areas where rail is running due to insufficient anchors.
Ballast	- Pit run gravel and dirt.
Bridges	- Nine (9) bridges.
Road Crossings	- Twenty-seven (27); thirteen (13) paved, fourteen (14) unpaved.
Roadbed/ Ditching	- Generally adequate.
Vegetation	- Scattered locations of grass and weeds in ballast section.
Timetable Speed	- 25 mph

Weight
Restrictions - 263,000 lb gross weight.

Net
Liquidation - Track material $465,432, land $53,328

SOURCE: Montana Department of Commerce

TABLE 5-16.7

REHABILITATION COST ESTIMATE

Lewistown to Moore

Ditching, 5 days @ $450	$ 2,250
Rail, 100-lb Relay (176 tons/mile x 5.0 miles) @ $300	264,000
Joints, 100-lb S.H. (320/mile x 5.0 miles) @ $9.32	14,912
Bolts, Locks and Nuts, New (1,280/mile x 5.0 miles) @ $2	12,800
Tie Plates, S.H. (6,000/mile x 5.0 miles) @ $2.75	82,500
Spikes, New (12,000/mile x 5.0 miles) @ $ .36	21,600
Rail Anchors, New (3,240/mile x 5.0 miles) @ $1.15	18,630
Crossties, New (1,0000/mile x 17.6 miles) @ $18	316,800
Ballast (900 cu yd/mile x 17.6 miles) @ $3.60	57,024
Spikes, New (4,000/mile x 12.6 miles) @ $ .36	18,144
Unload Material, 5.0 miles @ $3,000	15,000
Unload Material, 12.6 miles @ $2,200	27,720
Lay Rail, 5.0 miles @ $15,000	75,000
Timber and Surface, 17.6 miles @ $10,500	184,800
Work Road Crossings, 8 @ $2,000	16,000
Turnouts #10, 100-lb S.H., 2 @ $10,000	20,000
Install Turnouts, 2 @ $3,000	6,000
Subtotal	$1,153,180
Less Value of Materials Released	52,800
Total Rehabilitation Cost	$1,100,380

SOURCE: Montana Department of Commerce

Highways - The expected increase in truck traffic on area highways is listed in Table 5-16.8. The increase over existing levels of average daily truck traffic ranges from 2.5 percent to 3.6 percent. The annual estimated highway impact costs that would result from abandonment are $285,720.

TABLE 5-16.8
AREA HIGHWAY IMPACT ESTIMATES
Sipple to Lewistown

			AVERAGE DAILY TRUCK TRAFFIC		
HIGHWAY	SECTION	MILEAGE	EXISTING	INCREASE	%INCREASE
FAP-57	Lewistown-Moore	28	265	6.6	2.5
FAP-57	Moore-Moccasin	13	261	9.4	3.6

Total Estimated Annual Highway Impact Cost: $285,720

SOURCE: Montana Department of Highways
Montana Department of Commerce

Alternatives Evaluated

Tables 5-16.9 and 5-16.10 list the results of a benefit cost analysis of rehabilitating the line from Lewistown to Moore and building a new connection from Moore to the mainline near Sipple.

Rehabilitation/New Construction - The cost of rehabilitating this line is approximately $1.1 million. Construction of the Moore-Sipple Connection is estimated at $2.7 million. The net present value of benefits over a ten year period is $29.3 million, and the present value of costs is $12.6 million. The net present value of the project is $16.7 million, and the benefit/cost ratio is 2.32.

TABLE 5-16.9

DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS

Sipple to Lewistown

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
	Moore to Lewistown Rehabilitation	
	Moore to Sipple New Construction Alternative	
Railroad	Annual Cost Savings On-Branch	$ -558,930
	Annual Cost Savings Off-Branch	-624,401
Truck/User	Annual Line Haul Cost	3,515,014
Other	Annual Highway Impact Cost	285,720
	New Construction Cost	-2,738,000
	Net Salvage Value of Rehabilitation (Materials) and New Construction (Land and Materials)	1,576,940

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Montana Department of Commerce

TABLE 5-16.10

BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS

Sipple to Lewistown

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE(1) BENEFIT	COST	NET	BENEFIT/ COST RATIO
			(000's)		
Rehabilitation Moore to Lewistown/ New Construction Moore to Sipple	$3,838.3	$29,367.7	$12,636.8	$16,730.9	2.32

(1) Discount Rate - 4 Percent.
Project Life - 10 Years.

SOURCE: Montana Department of Commerce

Conclusions

Loss of rail service to the Lewistown area would increase transportation costs to shippers now using rail and would jeopardize the area's business development potential. This area has already lost the Milwaukee Railroad, which provided competition for the BNRR.

For this project to be implemented, federal assistance is necessary because of the project's high initial cost. The benefit/cost ratio for this line is greater tha 1.0, and a new construction project should stabilize rail service into the Lewistown area well into the future. It is recommended that available funds be allocated to this project.

SNOWDEN TO GLENDIVE
Burlington Northern Railroad

This 80 mile line that extends through portions of Roosevelt, Richland and Dawson Counties and the State of North Dakota handles many kinds of commodities. These commodities include grain, coal, chemicals, fertilizers (liquid and dry), and scrap. Figure 5-17 illustrates the line, as well as other area rail lines and highways. There are sixteen (16) rail users and seven stations on the line.

The following is a summary of the status and issues concerning this branchline.

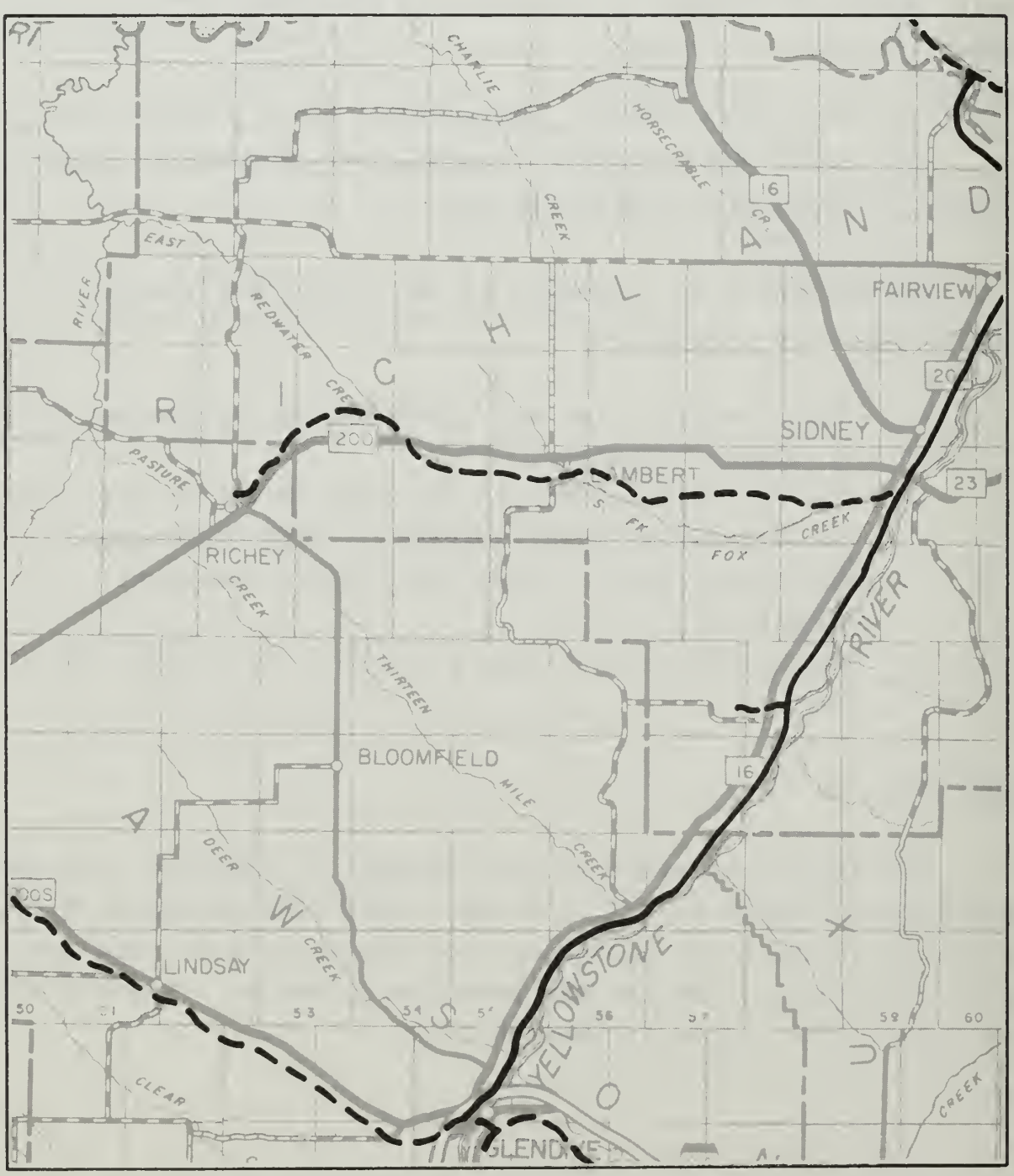
- Light density line not scheduled for abandonment due to fiscal viability.
- The Burlington Northern Railroad (BNRR) is carrying out extensive rehabilitation on this branchline. Completion should leave the line in excellent condition.
- Several different types of businesses utilize the rail.

Rail Use

The usage statistics for the Snowden to Glendive line are presented in Table 5-17.1. In 1983, this line generated 3,201 carloads of which 48% was grain, 28% was sugar beets and sugar beet by-products, and 10% was petroleum products. Significant rail users are listed in Table 5-17.2.

SNOWDEN TO GLENDIVE

RAILROAD: BURLINGTON NORTHERN
LENGTH: 80.0 MILES
COUNTIES: DAWSON, RICHLAND, ROOSEVELT
STATUS: LIGHT DENSITY LINE



SUBJECT LINE _____

ALL OTHER LINES — — — — —

FIGURE 5-17

TABLE 5-17.1

RAILROAD USE STATISTICS

Snowden to Glendive

STATION	NUMBER	PERCENT	NUMBER	PERCENT	COMMODITY
			Originating		
Sidney	15	0.5	1,500	0.5	Scrap
	896	28.0	85,154	28.0	Sugar Beets & Sugar Beet By-Products
	60	1.9	6,000	2.0	Coal
	258	8.1	26,832	8.8	Chemicals
	318	9.9	20,670	6.8	Petroleum Products
	2	0.5	80	0	Leather Products
	710	22.0	71,000	23.4	Grain
Fairview	836	26.1	83,600	27.5	Grain
	25	0.8	2,500	0.8	Pinto Beans
			Terminating		
Sidney	48	1.5	4,800	1.6	Dry Fertilizer
	6	0.2	54	0.0	Insulation
	1	0.0	2	0.0	Furniture and Fixtures
	18	0.6	1,146	0.4	Nonmetallic Minerals
	1	0.0	10	0.0	Machinery
Fairview	5	0.2	500	0.2	Dry Fertilizer
	2	0.1	18	0.0	Insulation
TOTAL	3,201	100.0	303,866	100.0	

1984 Statistical Summary

Length: 80.0 Miles
Carloads Per Week: 61.6
Carloads Per Mile: 40.0
Revenue: $12,269,089

SOURCE: Montana Department of Commerce

TABLE 5-17.2
RAILROAD USERS
Snowden to Glendive

NAME	STATION	SIDING(1)	COMMODITY
Fairview Lumber Co.	Fairview	T	Insulation
Montana Farmers Elevator	Fairview	P	Grain
Harvest States	Fairview	P	Grain
Mon-Kota Fertilizer	Fairview	P	Fertilizer
Agri-Basics	Sidney	P	Farm Products
Montana Grain Co.	Sidney	P	Grain
United Building Center	Sidney	P	Insulation
Mondak Farmers Elevator	Sidney	P	Grain
Holly Sugar Co.	Sidney	P	Food Products
Triple A. Implement	Sidney	P	Machinery
Davis Mud & Chemical	Sidney	P	Chemicals
Johnson Hardware	Sidney	T	Furniture
Western Company of North America	Sidney	P	Stone Products
Bi-State Coop	Sidney	P	Farm Products
Pacific Hide & Fur	Sidney	T	Scrap
Koch Industries	Sidney	P	Petroleum Products

(1) P - Private Or Leased Siding On Premises.
T - Team Track

SOURCE: Montana Department of Commerce

Rail Service

Information gathered indicates that BNRR serves this branchline twice weekly from Glendive.

In 1982, this branch generated revenues of $12,269,089 and had on and off-branch costs of $4,138,294 showing a profit of $8,130,795.

The estimated revenue and costs for this branchline are presented in Table 5-17.3.

Highways

Federal Aid Primary (FAP) 20 and Federal Aid Secondary (FAS) 469 highways parallel the rail from Snowden to Glendive. ADT's on FAP 20 from Glendive to Sidney average between 1,990 to 3,400 cars and 519 to 612 trucks.

Rail Inventory and Condition

The Snowden to Glendive line is presently undergoing major rehabilitation. Most of the tie work has been completed. From the vicinity of MP 43 to Snowden, heavier steel has been laid. From MP 4 just east of Intake (MP 18.8), 132# CWR has been distributed and is waiting for the steel gang to install. In this area, the roadbed is in good condition, and installation of the CWR will finish the project.

With the completion on the rehabilitation project, this line should be in excellent operating condition. All rehabilitation costs have been absorbed by the BNRR, as the line is viable and not in immediate consideration for abandonment.

Effects of Abandonment

Railroad - Should the railroad abandon this branchline and

TABLE 5-17.3

ESTIMATED REVENUES AND COSTS

Snowden to Glendive

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On-Branch	$12,269,089
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$ 1,206,286
a. Maintenance of Way and Structures (Normalized)	480,000
b. Transportation	399,870
c. Maintenance of Equipment	326,416
3. Off-Branch Costs	2,443,903
4. Total Avoidable Costs (Line 2 + Line 3)	$ 3,650,189
5. Avoidable Loss from Operations (Line 1 - Line 4)	$(8,618,900) (1)
6. Net Liquidation (Line 6a + Line 6b)	$ 2,259,747
a. Materials	2,090,067
b. Land	169,680
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	$ 488,105
9. Total Avoidable Loss (Line 5 + Line 8)	$(8,130,795) (1)

(1) Parentheses Indicates Gain

SOURCE: Montana Department of Commerce

employ the assets elsewhere in the system, BNRR would forfeit $8 million annually in profits. Therefore, it does not appear that abandonment is a possibility at this time.

Rail Users - Based on 1983 data, it is estimated that rail users on this line would be subject to increases in shipping costs if commodities were trucked to the nearest railhead. The trucking costs listed below are based on the assumption that commodities would move the same direction by truck as they had by rail.

Sidney North to Snowden	$ 891,435
Sidney South to Glendive	36,856
Fairview North to Snowden	279,470
Fairview South to Glendive	60,048
TOTAL	$1,267,809

Highways - An abandonment would place an additional 34 trucks daily on area highways. This would represent about a 6% increase in truck traffic.

Conclusions

Considering the information available, it appears that this branchline is financially viable, and thereby will not become a candidate for abandonment. An important factor in this conclusion is that BNRR is investing a large amount of capital in rail line rehabilitation.

WHITEHALL TO ALDER
Burlington Northern Railroad

This light density branchline extends 45.6 miles south from Whitehall to Alder as illustrated in Figure 5-18. There are two stations on the line, Sheridan and Alder. Nearly all of the traffic moved on the line originates at Alder.

The status and issues concerning the line are summarized below:

- Light density line not identified for abandonment.
- Area highways would be significantly impacted from additional truck traffic if line were abandoned.
- Nonmineral commodity movements have decreased in recent years.

Rail Use

The major railroad user on the line is Cyprus Industries, a talc and chloride mining company which ships out of Alder. Other commodities moved on the line include fertilizer and machinery and are listed in Table 5-18.1. Four rail users were identified from the shipper survey and are listed in Table 5-18.2.

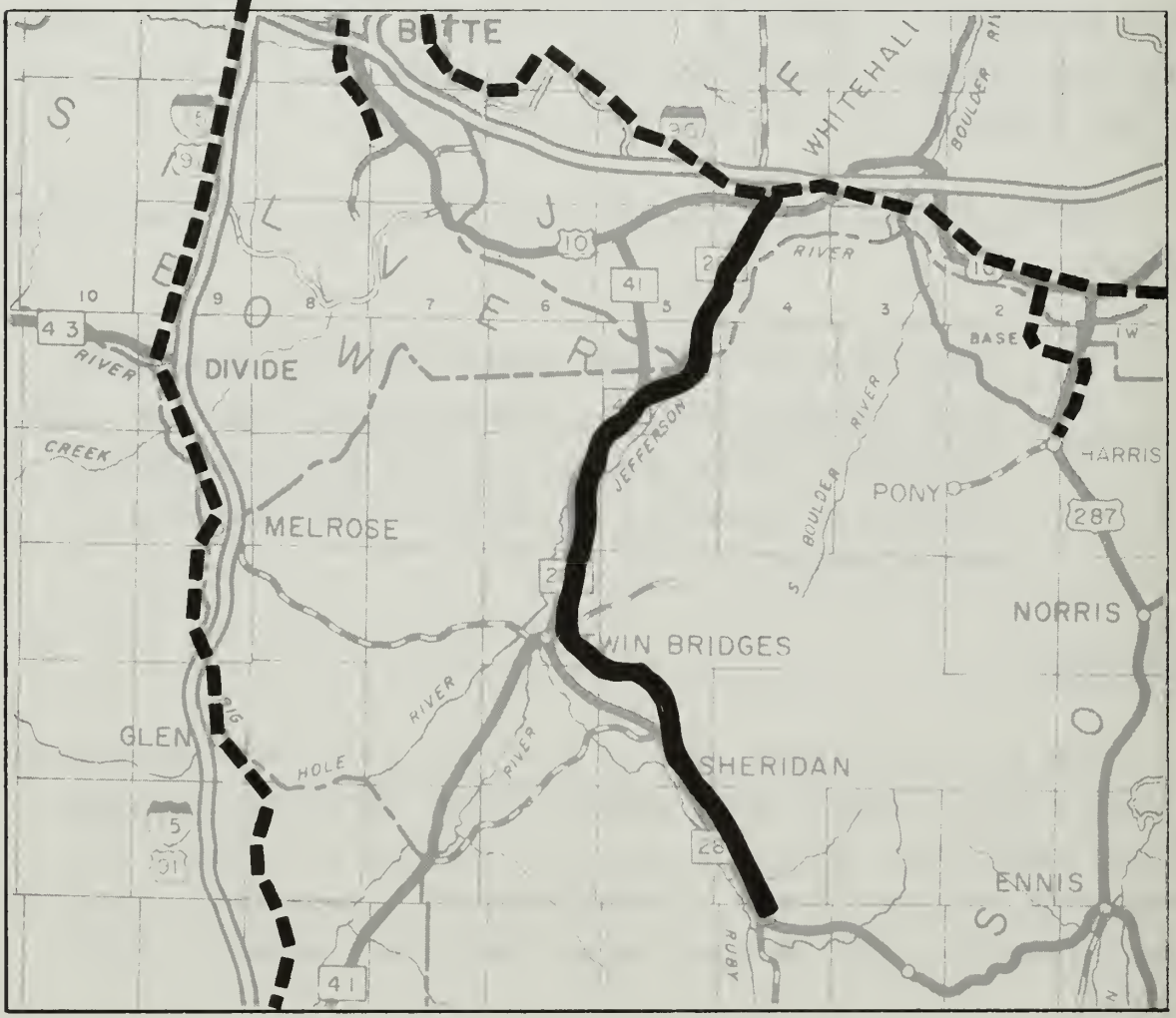
Rail Service

Stations on this line are served twice a week. The timetable speed is between 15 and 40 mph.

An estimate of the revenues and costs associated with the Whitehall to Alder line is provided in Table 5-18.3. The line generates approximately $3.1 million in revenue. On-branch

WHITEHALL TO ALDER

RAILROAD: BURLINGTON NORTHERN
LENGTH: 45.6 MILES
COUNTIES: JEFFERSON, MADISON
STATUS: LIGHT DENSITY LINE



SUBJECT LINE
ALL OTHER LINES

FIGURE 5-18

TABLE 5-18.1
RAILROAD USE STATISTICS - 1983
Whitehall to Alder

	CARLOADS		TONS		
STATION	NUMBER	PERCENT	NUMBER	PERCENT	COMMODITY
			Originating		
Alder	1,116	98.9	67,115	98.8	Nonmetallic Minerals
			Terminating		
Alder	1	0.08	60	0.08	Machinery
Sheridan	7	0.6	688	1.0	Dry Fert.
Sheridan	4	0.3	40	0.05	Machinery
TOTAL	1,128	100.0	67,903	100.0	

1983 Statistical Summary

Length: 45.6 Miles
Carloads Per Week: 21.69
Carloads Per Mile: 24.73
Revenue: $3,152,317

SOURCE: Montana Department of Commerce

TABLE 5-18.2
RAILROAD USERS
Whitehall to Alder

NAME	STATION	SIDING(1)	COMMODITY
Hamler Motors	Sheridan	T	Machinery
Williams Feed	Sheridan	P	Chemicals
Cyprus Industrial Minerals Co.	Alder	P	Nonmetallic Minerals
Southmont Tractor	Dillon	T	Machinery

(1) P - Private Or Leased Siding On Premises.
T - Team Track

SOURCE: Burlington Northern Railroad
Montana Department of Commerce

TABLE 5-18.3
ESTIMATED REVENUES AND COSTS
Whitehall to Alder

REVENUES ATTRIBUTABLE	YEAR 1983
1. Freight Originated And/Or Terminated On-Branch	$3,152,317
AVOIDABLE COSTS	
2. On-Branch Costs (Lines 2a Through 2c)	$ 593,499
a. Maintenance of Way and Structures (Normalized)	273,600
b. Transportation	153,249
c. Maintenance of Equipment	166,650
3. Off-Branch Costs	641,042
4. Total Avoidable Costs (Line 2 + Line 3)	$1,234,541
5. Avoidable Loss from Operations (Line 1 - Line 4)	$(1,917,776)(1)
6. Net Liquidation (Line 6a + Line 6b)	$ 649,420
a. Materials	566,520
b. Land	82,900
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	140,274
9. Total Avoidable Loss (Line 5 + Line 8)	$(1,777,502)(1)

(1) Parenthesis Indicates Gain

SOURCE: Montana Department of Commerce

costs on the line are estimated at $0.7 million (including opportunity costs) and off-branch costs at $0.6 million. The line produced a profit of $1.7 million in 1983.

Highways

This branchline is paralleled by Federal Aid Primary Highway 29 from Alder to a junction north of Silver Star and by Federal Aid Primary Highway 55 from this junction north to Whitehall. Highway distances from stations on the branchline to alternate stations are listed in Table 5-18.4.

TABLE 5-18.4
DISTANCE TO SELECTED RAILROAD STATIONS
Whitehall to Alder

TOWN	RAIL STATION	RAILROAD	DISTANCE (Miles)
Sheridan	Whitehall	BN	32
	Dillon	UP	37
Alder	Three Forks	BN	70
	Dillon	UP	48

SOURCE: Montana Department of Commerce

Rail Inventory and Condition

There are three weights of rail on this branchline, ranging from 56 to 90 pound rail. For long term operation, the 56 pound rail should be replaced. Details are shown in Table 5-18.5.

Rehabilitation Costs

Table 5-18.6 indicates that approximately $2.4 million would be needed to rehabilitate this branchline. The most expensive item is the replacement of lightweight rail.

TABLE 5-18.5
LINE FACILITIES CONDITION
Whitehall to Alder

Mileposts	- 0.0 - 45.6
Rail	- 2.1 miles of 85-lb rail, 22.9 miles of 90-lb CWR, 20.0 miles of 56-lb rail, and 0.6 miles of 90-lb jointed rail.
Ties	- Treated softwoods, good condition under CWR and generally fair under light rail.
Tie Plates and Rail Anchors	- Fully plated with single and rail shoulder plates on CWR, approximately 65% of 56-lb rail plated with single shoulder plates. CWR has adequate anchors, some of 56-lb rail is running due to insufficient anchors.
Ballast	- Crushed rock ballast over cinders.
Bridges	- Nineteen (19) bridges, all appear in good condition.
Road Crossings	- Sixteen (16); five (5) paved, eleven (11) unpaved.
Roadbed/ Ditching	- Roadbed is generally adequate for this type of service; no side drainage blocked.
Vegetation	- Scattered locations of weeds and grass growing in ballast section.

Timetable
Speeds - Whitehall and milepost 24.0, 40 mph; Alder and milepost 24.0 westward, 20 mph; Alder and milepost 24.0 eastward, 15 mph.

Weight
Restriction - 263,000 lb gross weight.

Net
Liquidation - $566,520 (track material), $82,900 (land)

SOURCE: Montana Department of Commerce

TABLE 5-18.6

REHABILITATION COST ESTIMATE

Whitehall to Alder

Rail, 100-lb Relay (176 tons/mile x 20.6 miles) @ $300	$1,087,680
Joints, 100-lb S.H. (320/mile x 20.6 miles) @ $9.32	61,437
Bolts, Locks, and Nuts (1,280/mile x 20.6 miles) @ $2	52,736
Tie Plates, S.H. (6,000/mile x 20.6 miles) @ $2.75	339,900
Spikes, New (12,000/mile x 20.6 miles) @ $ .36	88,992
Rail Anchors, New (3,240/mile x 20.6 miles) @ $1.15	76,756
Crossties, New (700/mile x 20.6 miles) @ $18	259,560
Ballast (900 cu yd/mile x 20.6 miles) @ $3.60	66,744
Turnouts, #9, 100-lb S.H., 3 @ $10,000	30,000
Unload Material, 20.6 miles @ $2,800	57,680
Lay Rail, 20.6 miles @ $15,000	309,000
Timber and Surface, 20.6 miles @ $8,550	176,130
Install Turnouts, 3 @ $3,000	9,000
Work Road Crossings, 12 @ $2,000	24,000
Subtotal	$2,639,615
Less Value of Material Released	164,800
Total Rehabilitation Cost	$2,474,815

SOURCE: Montana Department of Commerce

Effects of Abandonment

Railroad - This line produces a profit for the railroad, and the line is currently not identified for abandonment. However, according to a Cyprus Co. spokesperson, the BNRR may be willing to negotiate contract rates for the Cyprus Co. at Three Forks so that an abandonment would not close the mines. If the railroad loaded the talc and chloride at Three Forks, it could maintain existing traffic levels and avoid the $733,774 costs associated with operating on the branch.

Rail Users - According to the Cyprus Co. estimates, abandonment of this branchline would cost the company $2.0 million to relocate talc processing facilities to Three Forks. Other shippers/receivers on the line would probably move commodities now moved by rail entirely by truck. The estimated truck costs plus annualized capital expenses attributable to accommodating the use of trucks are $691,419.

Highways - The expected increase in truck traffic on area highways that would result from branchline abandonment is listed in Table 5-18.7. Increases of average daily truck traffic over existing levels range from 5.0 percent to 5.3 percent. The annual estimated highway impact cost of $3,770,644 is attributed to the increased truck traffic.

TABLE 5-18.7
AREA HIGHWAY IMPACT ESTIMATES
Whitehall to Alder

			AVERAGE DAILY TRUCK TRAFFIC		
HIGHWAY	SECTION	MILEAGE	EXISTING	INCREASE	%INCREASE
FAP-29	Alder-Sheridan	11	117	6.2	5.3
FAP-29	Sheridan-Jct/FAP-55	23	125	6.2	5.0
FAP-55	Jct/FAP-29-Whitehall	12	125	6.2	5.0
Total Estimated Annual Highway Impact Cost:			$3,770,644		

SOURCE: Montana Department of Highways
Montana Department of Commerce

Alternatives Evaluated

Rehabilitation and acquisition/rehabilitation alternatives have been evaluated for this line. The results of this economic analysis are shown in Tables 5-18.8 and 5-18.9.

Rehabilitation - The project cost of this alternative is approximately $2.4 million. Annual on-branch operating costs are $0.7 million, and the annual off-branch operating costs associated with the off-branch movement of machinery and fertilizer are $4,299. The net present value of costs is $9.1 million. The net present value of benefits is $40.8 million, the largest component of which is the $3.7 million annual highway impact cost. The benefit/cost ratio is 4.22, and the net present value is $25.6 million.

Acquisition/Rehabilitation - This project would cost $3.1 million to implement. The net present value of costs is $9.7 million, and the net present value of benefits is $34.0 million, resulting in a benefit/cost ratio of 3.96. The net present value of $25.4 million is smaller than the net present value of the rehabilitation alternative due to acquisition costs.

Conclusions

The key industry on this line is the talc mining and crushing operation at Alder. Rail service is very important to the operations at Alder, as approximately 97% of the talc moved out of the area is shipped by rail. Loss of rail service on this branchline would require complete reliance upon truck transport which would increase transportation costs unless the Cyprus Co. successfully negotiates a lower freight rate with the BNRR at Three Forks. These negotiations are in progress. As previously mentioned, relocation of the crushing facility to Three Forks would cost the Cyprus Co. an additional $2.0

TABLE 5-18.8

DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS

Whitehall to Alder

TYPE	DESCRIPTION	BENEFIT
	Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$ -733,774
	Annual Cost Savings Off-Branch	-4,299
Truck/User	Annual Line Haul Cost, Handling Cost and Capital Investment Cost	669,607
Other	Net Salvage Value of Rehabilitation Materials	644,607
	Annual Highway Impact Cost	3,770,644
	Acquisition/Rehabilitation Alternative	
Railroad	Annual Cost Savings On-Branch	$ -733,774
	Annual Cost Savings Off-Branch	-4,299
Truck/User	Annual Line Haul Cost, Handling Cost and Capital Investment Cost	669,607
Other	Acquisition Cost (Land and Materials)	-649,420
	Annual Highway Impact Cost	3,770,644
	Net Salvage Value of Rehabilitation Materials	644,607
	Liquidation Benefits	649,420

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Montana Department of Commerce

TABLE 5-18.9

BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS

Whitehall to Alder

ALTERNATIVE PROJECT	PROJECTED COST	PRESENT VALUE(1) BENEFIT	COST	NET	BENEFIT/ COST RATIO
			(000's)		
Rehabilitation	$2,474.8	$33,629.9	$7,962.5	$25,667.3	4.22
Acquisition/ Rehabilitation	$3,124.2	$34,086.2	$8,611.8	$25,474.3	3.96

(1) Discount Rate - 4 Percent
Project Life - 10 Years

SOURCE: Montana Department of Commerce

million. Abandonment of the line would also jeopardize the possibility of an expected increase in chloride production unless the aforementioned rate negotiations are successful. Finally, assuming the Cyprus Co. is able to maintain its operations and load the minerals onto rail cars at Three Forks, abandonment would significantly increase truck traffic on area highways, resulting in an annual estimated impact of $3.7 million.

A rehabilitation or an acquisition/rehabilitation project would be recommended if the possibility of abandonment becomes likely and if the project compares favorably with other lines analyzed in the report.

CHAPTER SIX

PRIORITIES FOR PROJECT ASSISTANCE

CHAPTER 6
PRIORITIES FOR PROJECT ASSISTANCE

The 1984 Update of the Montana Rail Plan has examined 18 rail lines which are eligible for project assistance under this program. The purpose of the evaluation is two-fold:

- Funds under this program are limited, and a priority system must be followed in order to allocate this scarce resource.

- Only lines which have been evaluated in the State Rail Plan or an Update can receive federal funds. With the completion of this 1984 Update, nearly every eligible line in the state will have been analyzed for project purposes.

The purpose of Montana's Rail Plan and Updates is to evaluate potential projects. For analytical purposes, the basic assumption of the analyses for those lines which still have rail service is that these lines might be abandoned in the future without corrective action. The corrective action that is evaluated in this Update is the use of federal funds. Other actions which were not evaluated but which could be taken include: increased usage from existing railroad customers, development of new industry requiring rail service, improved railroad service levels, and rate revisions to cover branchline costs.

Rail Line Statistical Summary

Chapter 5 contains the individual analyses of lines eligible for project assistance. Since each analysis is

essentially a separate report, it is appropriate to compare the traffic and rail user information for these lines. This summary is presented in Table 6-1.

Net Revenue - The table indicates that a significant number of lines appeared to be profitable in 1983. The most profitable lines were Great Falls to Fort Benton, Glendive to Snowden, and Bainville to Opheim, all owned by the BNRR. This analysis is generally based on shipper, tariff, and railroad-provided gross revenues and Study Team estimates of operating costs and return on assets.

Rail Traffic - The table also indicates that the number of carloads and the number of cars per mile of track varied considerably in 1983. These lines carried between 0 and 5,599 carloads of revenue traffic that year. Lines which generated more than 500 carloads of revenue traffic include Bainville to Opheim, BAP, Glendive to Snowden, Great Falls to Fort Benton, Moccasin to Geraldine (projected), North Dakota State Line to Whitetail, Pacific Junction to Big Sandy, Sipple to Lewistown, and Whitehall to Alder.

A traditional performance measure for branchline is the number of carloads divided by the length of the line. In the absence of other data, this statistic gives at least some indication of the ability of the line to produce revenues sufficient to cover its operating costs and return on value. The lengths of these lines range from 3.6 to 146.6 miles. Except for certain lines which had no traffic or for which data was not available, the carload/mile values ranged from 1.9 to 125.5.

Rail Users and Commodities - The number of rail users and types of traffic are also listed on the table. The most rail users are on the Bainville to Opheim branch, which is also the longest line analyzed. Of the 18 lines analyzed, 13 have 10 customers or less. Generally speaking, two major types of

TABLE 6-1
LINE STATISTICAL SUMMARY

LINE/STATUS(1)	LENGTH	1983 NET REVENUE	1983 CARS	CARS/ MILE	RAIL USERS	MAJOR TRAFFIC
Bainville/Opheim-L	146.6	$6,471.7	3,574	24.4	29	Farm Products, Chemicals
BAP-III	115.0(2)	-1,907.6	1,407	(3)	14	Copper Concentrates, Slag, Scrap
Brazil Creek Spur-L	18.7	16.0	278	14.86	1	Nonmetallic Minerals
Butte/Whitehall-I	28.8	(3)	0	0	0	None
Dixon/Polson-L	33.4	403.7	431	12.9	10	Lumber and Wood Products
Glendive/Snowden-L	80	8,130.7	3,201	40.0	17	Farm Products, Sugar Beets, Sugar Beet By-Products
Great Falls/Fort Benton-L	44.6	9,179.9	5,599	125.5	12	Farm Products
Drummond/Philipsburg-I	26.2	0	0	0	0	None
Lewistown/Heath-I	9.6	-57.0	18	1.9	1	Paper
Missoula/Darby-L	65.9	-17.3	227	4.2	7	Lumber and Wood Products
Moccasin/Geraldine-S	87.5	18.4(4)	1,200(4)	13.7(4)	(5)	Farm Products
Newlon Jct/Richey-A	45.4	-326.4	116	2.5	7	Farm Products
North Dakota State Line/Whitetail-L	56.9	547.8	812	14.3	6	Farm Products
Pacific Jct/Big Sandy-L	31.5	2,753.0	1,267	40.2	5	Farm Products
Phosphate Spur-A	3.6	0	0	0	0	None
Saco/Loring-A	39.0	0	0	0	0	None
Sipple/Lewistown-L	24.0(6)	2,294.2(7)	984(7)	41.0(7)	15(7)	Lumber and Wood Products, Farm Products
Whitehall/Alder-L	45.6	1,777.5	1,128	24.7	4	Nonmetallic Minerals

(1) I - Could Be Abandoned Within Three Years
II - Under Study By Railroad
III - Abandonment Decision Pending
A - Abandoned
L - Light Density Line, Not Potentially Subject To Abandonment
S - Acquired by the State of Montana
(2) The Length Of The Mainline On The BAP System Is 25.29 Miles
(3) Not Meaningful
(4) Based On 1986 Projections
(5) Not Available
(6) Contingent Upon Completion Of The Moore/Sipple Connection
(7) 1986 Operating Scenario Based On 1983 Traffic Data
SOURCE: Chapter 5

traffic are found on these lines. One major group of lines carries mainly farm products, fertilizers and farm machinery. The other group carries mainly lumber or wood chips. The major exception to this is the BAP, which carries copper concentrates, slag, and scrap.

Alternatives for Project Assistance

Different alternatives for project assistance were evaluated for these lines as summarized in Table 6-2. As shown in the table, the benefit/cost ratios of these projects range from very low to relatively high. Those projects with ratios greater than 1.0 and positive net present values would be considered as "good" projects in a strict economic sense since the benefits exceed the costs.

Priorities for Project Assistance

Because of the lack of sufficient funds to implement a project for each line, and in accordance with federal requirements and the state analytical methodology presented in Chapter 4, a ranking of lines for project assistance purposes is necessary. The state has ranked these lines for assistance purposes based on both quantitative and qualitative factors. This ranking is contained in Table 6-3.

Serious Consideration - Five branchlines are in the serious consideration category. The line from Bainville to Opheim has been subdivided primarily because the Bainville to Plentywood section does not need rehabilitation, and of the high project cost to rehabilitate the entire line from Plentywood to Opheim. For both cases, the present value of project benefits are quite high if a project could prevent an eventual abandonment. However, the line is not in immediate danger of abandonment. The BAP system is in this category because of the economic benefits rail service may provide to the Butte-Ana-

TABLE 6-2

SUMMARY OF PROJECT ALTERNATIVES

LINE/ALTERNATIVE	PRESENT VALUE (1) BENEFIT	COST (000's)	NPV	B/C
Bainville/Opheim				
Rehabilitation, Scobey to Opheim	$23,610.0	$ 9,541.5	$14,068.5	2.47
Acquisition/ Rehabilitation, Scobey to Opheim	24,005.7	10,104.7	13,901.0	2.38
Rehabilitation, Plentywood to Opheim	63,180.2	18,920.4	44,259.8	3.34
Acquisition/ Rehabilitation, Plentywood to Opheim	64,049.8	22,140.7	43,891.7	3.18
BAP (2)				
Acquisition/Shortline Operation	4,758.9	2,839.8	1,919.2	1.68
Brazil Creek Spur				
Substitute Service	4,183.2	2,770.9	1,536.7	1.58
Truck to Final Destination	5,173.8	15,910.7	-10,736.9	0.33
Acquisition	3,551.6	4,566.4	-1,014.7	0.78
Butte/Whitehall				
None Evaluated				
Dixon/Polson				
Rehabilitation	1,675.4	6,013.9	-4,338.5	0.28
Acquisition/ Rehabilitation	2,193.5	6,751.3	-4,557.8	0.32
Glendive/Snowden				
None Needed				
Great Falls/Fort Benton				
None Needed				
Drummond/Philipsburg				
Acquisition	1,185.4	3,655.0	-2,469.7	0.32
Acquisition/ Rehabilitation	1,196.3	4,167.6	-2,971.3	0.29

LINE/ALTERNATIVE	PRESENT VALUE (1) BENEFIT	COST (000's)	NPV	B/C
Lewistown/Heath				
Rehabilitation, Phase I	577.6	1,150.9	-573.3	0.50
Rehabilitation, Phase II	898.1	2,062.2	-1,164.1	0.44
Acquisition/ Rehabilitation, Phase I	664.9	1,275.2	-610.2	0.52
Acquisition/ Rehabilitation, Phase II	985.4	2,186.5	-1,201.1	0.45
Missoula/Darby				
Rehabilitation	1,910.3	6,957.0	-5,046.7	0.27
Acquisition/ Rehabilitation	2,715.9	8,103.5	-5,387.7	0.34
Moccasin/Geraldine				
Rehabilitation	40,697.5	12,785.9	27,911.7	3.18
Rehabilitation/Wye Construction	43,262.5	13,402.2	29,860.4	3.23
Newlon Jct/Richey				
Rehabilitation	2,912.2	9,712.0	-6,799.7	0.30
Acquisition/ Rehabilitation	3,489.6	11,416.2	-7,044.1	0.33
North Dakota State Line/ Whitetail				
Rehabilitation	23,337.1	11,728.4	11,608.6	1.99
Acquisition/ Rehabilitation	24,418.6	12,870.6	11,548.0	1.90
Pacific Jct/Big Sandy				
None Needed				
Phosphate Spur				
None Needed				
Saco/Loring				
Acquisition/ Rehabilitation/ Shortline Operation	2,204.1	2,387.0	-183.0	0.92
Sipple/Lewistown				
Rehabilitation/ New Construction	29,367.7	12,636.8	16,730.9	2.32

LINE/ALTERNATIVE	PRESENT VALUE (1) BENEFIT	COST (000's)	NPV	B/C
Whitehall/Alder				
Rehabilitation	33,629.9	7,962.5	25,667.3	4.22
Acquisition/ Rehabilitation	34,086.2	8,611.8	25,474.3	3.96

(1) Discount Rate - 4 Percent
Project Life - 10 Years

(2) Discount Rate - 4 Percent
Project Life - 5 Years

SOURCE: Chapter 5

TABLE 6-3

PROJECT ASSISTANCE PRIORITIES

LINES ANALYZED IN THE 1984 UPDATE

LINE	ALTERNATIVE	PROJECT COST (000's)
	Serious Consideration	
Bainville/Opheim		
Scobey/Opheim	Rehabilitation	$ 4,788.1
	Acquisition/Rehabilitation	5,351.3
Plentywood/Opheim	Rehabilitation	9,498.7
	Acquisition/Rehabilitation	10,376.4
BAP	Acquisition/Shortline Operation	178.8
Moccasin/Geraldine	Rehabilitation, Wye Construction	12,876.8
Geraldine/ Spring Creek	Rehabilitation	9,398.3
	Rehabilitation, Wye Construction	10,148.3
Moccasin/ Spring Creek	Rehabilitation	2,728.4
North Dakota Line/ Whitehall	Rehabilitation	5,792.8
Sipple/Lewistown	Rehabilitation/New Construction	3,838.3
	Potential Consideration	
Butte/Whitehall	Acquisition	1,182.2
Dixon/Polson	Rehabilitation	1,752.6
Drummond/Philipsburg	Acquisition	992.0
Missoula/Darby	Rehabilitation	1,378.7
Saco/Loring	Rehabilitation/Acquisition	1,289.5
Whitehall/Alder	Rehabilitation	2,474.8
	Rehabilitation/Acquisition	3,124.2
	Little Or No Consideration/Reason	
Brazil Creek Spur	No Rehabilitation Needed	
Glendive/Snowden	No Rehabilitation Needed	
Great Falls/Fort Benton	No Rehabilitation Needed	
Lewistown/Heath	Very Little Traffic	
Newlon Jct/Richey	Very Little Traffic	
Phosphate Spur	An Agreement Regarding Abandonment Has Been Negotiated Between The Affected Parties	
Pacific Jct/Big Sandy	No Rehabilitation Necessary	

SOURCE: Montana Department of Commerce

conda area. A rail company has announced plans to operate on the system if the trackage can be acquired by the state. The third highly ranked line is the Moccasin to Geraldine line. This line has been subdivided into four alternatives, as each of these projects are viable alternatives to keep the line in operation. The fourth line is the North Dakota Border to Whitetail line and is owned by the Soo Line Railroad. This line has significant quantitative project benefits and provides at least some competition to the dominant railroad in the state. The last line on the list is Sipple to Lewistown. Construction of the Moore to Sipple connection will insure rail service into Lewistown, an important population and business center.

Potential Consideration - As shown in the table, seven lines are listed for potential consideration for projects. With a couple of exceptions, these projects are placed in this category because the total project benefits are low when railroad disbenefits are counted as costs, but the rail user benefits are significant. That is, an abandonment would likely be expensive to Montana rail users but continued service may cost the railroad even more. However, in accordance with the state's analytical procedures, projects in this group are not automatically excluded from further consideration.

Little or No Consideration - Finally, several lines are placed in the last category because of very small or no abandonment impacts on Montana rail users or because they are not in need of funding under this program.

State Project Decision

In consideration of the analysis and ranking contained in this Update, the State of Montana intends to seek available federal funding for the BAP, Moccasin to Geraldine, and Sipple to Lewistown lines at this time. Other funding requests may be

made at a later date. The selection of these lines for funding has been made for several reasons:

1) BAP
   - BAP system is in Category III - abandonment application is before the ICC.
   - Railroad projects sufficient carloads to keep the line in operation.
   - Current line owner has made sale-donation offer to the state.
   - A shortline operation would provide much needed employment and business development potential in an economically depressed area.
   - Project is within funding capability of the State of Montana.
2) Moccasin to Geraldine
   - This line serves a large and productive grain growing area.
   - Highway impacts resulting from rail abandonment are very significant, and greatly exceed railroad operating costs.
   - Project is within funding capability of the State of Montana.
3) Sipple to Lewistown
   - The BNRR has agreed to build a connecting line between Sipple and Moore in 1985. This will allow the BNRR to provide service into Lewistown without investing in costly bridge rehabilitation on the existing line between Moccasin and Lewistown, which is schedule for abandonment (Category 1).
   - Based on 1983 traffic, a line from Sipple to Lewistown would be profitable.
   - It is expected that contingent upon the construction of the Sipple to Moore connection, a grain subterminal will be built in Moore. This

should generate additional grain traffic for the line.

- This line provides essential rail service to Lewistown, an important population center in central Montana.
- Federal assistance is required to build the Moore-Sipple connection.

Future Activities

Possible future activities include:

- Mainline studies.
- Light density line studies similar to those conducted in Chapter 5. Virtually all branchlines in the state have been analyzed. However, changing conditions and circumstances may require reevaluation of selected lines.

APPENDICES

A - RAIL USER SURVEYS
B - INDEX TO FRA REGULATIONS

MONTANA RAIL PLAN

Railroad User Survey

1984

Line _____
Railroad _____
Interview Date _____
Name of Interviewer _____

ALL REPLIES WILL BE TREATED AS CONFIDENTIAL

I. INTERVIEWED COMPANY

Company Name _____ Type of Business _____
Address _____ _____
_____ No. Employees at this Location _____
Telephone _____ Railroad Location:
Representative _____ Station _____
Title _____ Milepost _____

II. RAIL TRANSPORTATION USE:

1. 1983 Rail Transportation Use:

a. Commodities and Volumes.

	COMMODITY	NO. CARLOADS	NO. TONS	RAIL CAR TYPE
i				
ii				
iii				
iv				

b. Origins/Destination and Rates for Rail Traffic Shown Above.

	COMMODITY	SHIPPED TO	RECEIVED FROM	RAIL RATE/CLASS
i				
ii				
iii				
iv				

c. Routings for the Rail Traffic Shown Above.

i				
ii				
iii				
iv				

2. In terms of rail volume, was 1983 a typical year? _____
If not, why not? _____
Please furnish rail traffic information for a typical year in the space below. Specify year _____.

a. Commodities and Volumes.

	COMMODITY	NO. CARLOADS	NO. TONS	RAIL CAR TYPE
i				
ii				
iii				
iv				

b. Origins/Destinations and Rates for the Rail Traffic Shown Above.

	COMMODITY	SHIPPED TO	RECEIVED FROM	RAIL RATE
i				
ii				
iii				
iv				

c. Routings For the Rail Traffic Shown Above.

i				
ii				
iii				
iv				

3. Future Rail Transportation Use:

a. Do you expect your rail usage to increase or decrease over the next five years compared with the stated 1983 volume? _____
b. What volume of change is expected? _____
c. Why do you expect it to change? _____

4. Rail Service Problems and Opportunities:

a. Please explain any rail service problems you now experience such as car supply, car type or weight limitations, service frequency.

_____

_____

b. Would solutions to any of these problems result in greater rail use on your part? _____
If so, how much and why? _____

_____

c. Current rail service frequency. _____

III. RAIL LOADING/UNLOADING FACILITIES

1. Rail Siding Used:
Private siding at business location _____
Leased siding at business location _____

Team Track _____
Length of siding _____
Other _____
If siding is at a location other than business location, specify:
Location _____
Distance and Route from Business _____

2. Loading/Unloading Facilities and Equipment Currently used:
Dock _____ Under Track Pit _____
Crane _____ Conveyor _____
Pneumatic System _____ Liquid System _____
Fork Lift _____ Other, Specify _____

3. Do you expect to make any changes to your siding or your rail facilities? _____
What changes and why? _____
_____
_____

IV. TOTAL TRANSPORTATION NEEDS AT THIS FACILITY

1. Percent of tonnage by commodity and mode in 1983:

COMMODITY	TONS	RAIL%	TRUCK%	OTHER%	TOTAL
					100
					100
					100
					100

2. What facilities (platforms, doors, etc.) and equipment (fork lifts, etc.) to you now have for handling trucks? _____
_____
Are these facilities and equipment now at capacity? Explain.
_____
_____

3. Please describe any unusual aspects of your traffic generation or needs such as seasonal variations, high and wide shipments, special equipment requirements, etc. _____
_____
_____

4. Why do you use rail? Could that rail traffic move by truck? Why or why not? _____
_____
_____

5. Does the railroad actively solicit your business? Does the railroad encourage rail use? Explain. _____
_____
_____

THE FOLLOWING QUESTIONS DO NOT IMPLY THAT RAIL SERVICE TO THIS LOCATION WILL NECESSARILY BE DISCONTINUED OR CONTINUED.

V. IF RAIL FREIGHT SERVICE WERE DISCONTINUED ON THIS RAIL LINE:

1. If rail service were discontinued, your company might: (indicate the choice that applies)
   ____ Ship/receive present rail freight entirely by truck.
   Types of trucks to be used _____
   Average truck load _____
   ____ Use another rail station and truck to this location.
   Location of alternate station _____
   Railroad serving alternate station _____
   Types of trucks to be used _____
   Average truck load _____
   ____ Relocate this facility. New location _____
   ____ Go out of business and not relocate.
   ____ Other. Describe. _____

2. What increase or decrease in employment and payroll would occur at this location if rail service were discontinued? _____
   _____

3. If rail service were discontinued, what capital expenditures would be required to accommodate the use of trucks to ship commodities now moved by rail? _____
   _____

4. If rail service were discontinued, would your transportation costs increase? _____
   By how much? (Specify ton, bushel, etc.) _____
   _____

5. Would this company be willing to participate financially or otherwise as part of a group of rail users by taking any of the following actions in order to prevent abandonment of this rail line?
   ____ Pay surcharge per car with the funds to be used to offset the railroad's operating loss on the line and/or to improve the physical condition of the line.
   ____ Pay a portion of the actual costs of line improvements.
   ____ Guarantee contractually with the railroad to use a specific number of cars annually. How many? _____
   ____ Other. Describe _____

6. If you have additional comments regarding the rail line, rail services, etc., please note them here. _____
   _____
   _____
   _____
   _____
   _____

APPENDIX B
INDEX TO FEDERAL RAIL PLANNING REGULATIONS
49 CFR Part 266, Section 266.15
Dated August 30, 1979 and August 29, 1980 as Revised March 15, 1982

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(2) Subsection, paragraph, and sub-paragraph of Part 266, Section 266.15.

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